EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1342	600/476.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 11:03
L2	1032	600/310.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 10:59
L3	137	600/475.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 10:59
L4	0	sample same emission same deep same tissue same four same spectral same weight$3 same image	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 11:00
L5	93	autofluorescence same spectral same image	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 11:01
L6	22	1 and 5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 11:01
L7	52	1 and (spectral same autofluorescence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 11:04
L8	6	2 and (spectral same autofluorescence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 11:04

EAST Search History

L9	2	3 and (spectral same autofluorescence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2007/09/26 11:04
S1	888	600/310.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:31
S2	713	600/473.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/21 12:50
S4	129	600/475.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/07 13:18
S5	219	600/477.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/07 13:19
S6	1388	356/432.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/07 13:19
S7	243	356/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:38
S8	669	356/440.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/07 13:19

EAST Search History

S9	20	S1 and (spectr$5 adj filt$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/07 14:51
S10	18	S1 and (spectr$5 adj filt$4) and (deep adju tissue)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/07 14:51
S11	2	S1 and (spectr$5 adj filt$4) and (deep adj tissue)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:38
S12	888	600/310.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 07:16
S13	4	S12 and (spectr$5 adj filt$4) and (optical$2 adj imag$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 08:27
S14	88	(spectral adj weighting adj function)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 07:28
S15	21	(emitted same radiation) and (spectral adj weighting adj function)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:41
S16	74209	"600"/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 07:30

EAST Search History

S17	1	S15 and S16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 07:29
S18	96676	"356"/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 07:31
S19	6	S15 and S18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 07:31
S20	24	("4844617" | "5192980" | "5329352" | "5461477" | "5486915" | "5528368" | "5539517" | "5638173" | "5689333" | "5723288" | "5737077" | "5760899" | "5784162" | "5817462" | "5859700" | "5886784" | "5986256" | "6040907" | "6084680" | "6319682" | "6337472" | "6342701" | "6356088").PN. OR ("6958811"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/11/08 07:39
S21	131	"5650135"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 08:27
S22	2	("5650135").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2006/11/08 08:28
S23	0	("EP416931").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2006/11/08 08:29

EAST Search History

S24	2	(emitted same radiation same (target or sample)) and (spectral adj weighting adj function)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 13:21
S25	2	(emitted same radiation same sample) and (spectral adj weighting adj function)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 13:21
S26	3	(emitted same radiation same specim$4) and (spectral adj weighting adj function)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 07:30
S27	4	(emitted same radiation same specim$4) and ((spectral adj filter$4) same (liquid near crystal))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 07:33
S28	161	((spectral adj filter$4) same (liquid near crystal))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/08 15:13
S29	3	(emitted same radiation same specim$4) and (spectral adj weighting adj function)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 07:30
S30	161	((spectral adj filter$4) same (liquid near crystal))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 07:33
S31	133	S30 and (speci$4 or sample or tissue)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 07:34

EAST Search History

S32	18	S30 and (speci$4 same emitted)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:25
S33	4	S30 and (deep adj tissue)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:47
S34	728	(deep adj tissue) and imag$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:27
S35	160	S34 and pixel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:29
S36	1	S35 and (weighted adj superposition)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:28
S37	94	weighted adj superposition	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:28
S38	1	S34 and S37	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:28
S39	124	S35 and spectr$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:29

EAST Search History

S40	1214	600/476.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:33
S41	714	600/473.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:33
S42	175	S41 and pixel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:33
S43	351	S40 and pixel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:34
S44	263	S43 and spectr$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:34
S45	539705	S44 and deep tissue	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:35
S46	12	S44 and (deep adj tissue)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:35
S47	1	2003/0081204	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:40

EAST Search History

S48	1	2003/0081204	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 08:41
S49	2	"20030081204"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 09:39
S50	2741	construct adj image	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 09:41
S51	321	(construct adj image) and (spectral)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 09:41
S52	33	(construct adj image) and (spectral same emission)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:48
S53	101	"5,539,517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 09:45
S54	0	"5,539,517"".pn"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 09:45
S55	2	("5,539,517").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2006/11/09 10:04

EAST Search History

S56	2	("6051835").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2006/11/09 10:27
S60	1853	(matrix same image same spectra$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:29
S61	0	S60 and (consruct$4 adj imag$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:30
S62	0	S60 and consruct$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:30
S63	894	S60 and sample	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:31
S64	864	S63 and method	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:32
S65	177354	S64 solving	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:32
S66	151	S64 and solving	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:38

EAST Search History

S67	8021	((recorded or stored) adj image) and spectr$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:40
S68	21754	((recorded or stored) adj image) and (emitt$4 or reflected) adjspectr$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:41
S69	60	((recorded or stored) adj image) and (emitt$4 or reflected) adj spectr$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:42
S70	31	S69 and (tissue or sample)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:43
S71	39	S69 and filter	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:43
S72	19	S70 and filter	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 10:47
S73	28	S52 and (multip$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/09 12:49
S74	2	("6891613").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2006/11/09 12:49

EAST Search History

S75	72	(imaging adj system) same demagnifi$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 09:48
S76	2	"20040081621"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:06
S77	24151	liquid adj crystal near5 filter	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:37
S78	24389	(liquid adj crystal) near5 filter$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:37
S79	890	600/310.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:38
S80	2	S79 and (spectr$5 adj filt$4) and (deep adj tissue)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:38
S81	243	356/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:38
S82	2	S78 and S81	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:38

EAST Search History

S83	21	(emitted same radiation) and (spectral adj weighting adj function)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:29
S84	6	S78 and S83	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 14:41
S85	102	("5803579").URPN.	USPAT	OR	ON	2006/11/13 15:27
S86	539847	tissue	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:29
S87	1	S84 and S86	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:29
S88	4	S83 and S86	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:30
S89	0	S78 and S80	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:31
S90	890	600/310.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:31
S91	17	S78 and S90	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:59

EAST Search History

S92	2	("6954667").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2006/11/13 15:34
S93	1	S92 and liquid	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:34
S94	9004	(fluoresc$5 adj probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/13 15:59
S95	9	S90 and S94	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/14 08:18
S96	2	"20050171434"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/14 08:18
S97	717	600/473.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2006/11/21 12:50
S98	31	("20010055112" | "3598995" | "3825762" | "3851970" | "4015130" | "4176957" | "4487502" | "4546256" | "4755056" | "4952027" | "5017785" | "5022754" | "5040889" | "5126569" | "5339151" | "5363188" | "5489978" | "5555085" | "5657116" | "5734578" | "5949535" | "5971537" | "6078389" | "6094275" | "6178341" | "6198531" | "6304326" | "6333500" | "6335792" | "6359684" | "6577387").PN. OR ("6963399"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/11/21 12:57

[File 344] **Chinese Patents Abs** Jan 1985-2006/Jan
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[File 347] **JAPIO** Dec 1976-2007/Mar(Updated 070809)
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[File 350] **Derwent WPIX** 1963-2007/UD=200757
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**File 350: DWPI has been enhanced to extend content and functionality of the database. For more info, visit http://www.dialog.com/dwpi/.*

[File 371] **French Patents** 1961-2002/BOPI 200209
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**File 371: This file is not currently updating. The last update is 200209.*

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? d s
Set     Items   Description
S1    1691212   S IMAG???
S2        545   S DEEP(3N)TISSUE? ?
S3         77   S S1 AND S2
S4     507122   S RADIAT????
S5         13   S S3 AND S4
S6         44   S SUBDERMAL(5N)TISSUE?
S7          7   S S1 AND S6
S8          3   S S4 AND S7
S9          3   S S8 NOT S5
S10     18123   S SUB()(SURFACE? OR DERMAL?) OR SUBSURFACE? OR SUBDERMAL?
S11      1801   S S1 AND S10
S12       191   S S4 AND S11
S13    217433   S TISSUE? OR TUMOR? OR NEOPLASM?
S14        17   S S12 AND S13
S15        14   S S14 NOT S5 NOT S9
S16        30   S S5 OR S9 OR S14
S17        19   S S16/2005-2007
S18        11   S S16 NOT S17
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5/5/1 (Item 1 from file: 350)
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0016459390 *Drawing available*
WPI Acc no: 2007-175619/200717
XRAM Acc no: C2007-061981
XRPX Acc No: N2007-127452
Medicinal preparation property transferring device for treating and diagnosing disease, has modulator as low frequency tuneable oscillating circuit connected to setter and radiator as coherent radiation sources
Patent Assignee: TSVETKOV N A (TSVE-I)
Inventor: TSVETKOV N A

Patent Family (1 patents, 109 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2006132563	A1	20061214	WO 2005RU318	A	20050609	200717	B

Priority Applications (no., kind, date): WO 2005RU318 A 20050609

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
WO 2006132563	A1	RU	12	2	
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
Regional Designated States,Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				

Alerting Abstract WO A1
NOVELTY - The medicinal preparation property transferring device has therapeutic property setter connected to high frequency electromagnetic energy **radiator** and modulator remotely placed with respect to biological object. The modulator is embodied in the form of low frequency tuneable oscillating circuit connected to setter and the **radiator** is embodied in the form of coherent **radiation** sources for adjusting **radiation** phase difference to obtain an interference **image** at desired depth of the biological object.
USE - For treating and diagnosing disease.
ADVANTAGE - Increases the accuracy and efficiency of the action of selected drug dose on **deep** seated **tissues**.
DESCRIPTION OF DRAWINGS - The figure shows a schematic view of the medicinal preparation property transferring device.

Title Terms /Index Terms/Additional Words: MEDICINE; PREPARATION; PROPERTIES; TRANSFER; DEVICE; TREAT; DIAGNOSE; DISEASE; MODULATE; LOW; FREQUENCY; OSCILLATING; CIRCUIT; CONNECT; SET; **RADIATOR**; COHERE; **RADIATE**; SOURCE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61N-0005/06	A	I	L	B	20060101
A61N-0005/067	A	I	F	B	20060101
A61N-0005/06	C	I	F	B	20060101

File Segment: CPI; EngPI; EPI
DWPI Class: B07; D22; S05; P34
Manual Codes (EPI/S-X): S05-A03A; S05-D02
Manual Codes (CPI/A-N): B11-C08; D09-A

5/5/2 (Item 2 from file: 350)
Derwent WPIX
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0015825598 *Drawing available*
WPI Acc no: 2006-381467/200639
XRPX Acc No: N2006-321154
Energy depositing method for use in e.g. brain, involves emitting electromagnetic radiation with antenna at range of frequencies effective to cause electromagnetic radiation within target substance
Patent Assignee: SAHIN N T (SAHI-I)
Inventor: SAHIN N T

Patent Family (1 patents, 111 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2006055829	A1	20060526	WO 2005US41934	A	20051118	200639	B

Priority Applications (no., kind, date): US 2004628928 P 20041118

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
WO 2006055829	A1	EN	57	9	
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ				

	OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Regional Designated States,Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU LV MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

Alerting Abstract WO A1

NOVELTY - The method involves providing a magnetic field that is able to induce a nuclear magnetic resonance in a composition of matter contained within the magnetic field. An electromagnetic **radiation** with an antenna is emitted at a range of frequencies effective to cause electromagnetic **radiation** within a target substance. The electromagnetic **radiation** is deposited within the target substance.

DESCRIPTION - An INDEPENDENT CLAIM is also included for an apparatus for depositing energy within an internal part of a human body.

USE - Used for depositing energy within an internal part e.g. brain, of a human body.

ADVANTAGE - The method enables to treat or destroy diseased or cancerous **tissue deep** within the human body without physical surgery or other invasive intervention, and minimizes risk of stroke, heart attack, paralysis, or loss of mental faculties. The method heats remote tissue without requiring long hospital stay, minimizes disruption of work and family life, and provides a non-invasive therapy that does not require the operator to stand within a high-field magnetic device.

DESCRIPTION OF DRAWINGS - The drawing shows a schematic illustration of a system for depositing energy within an internal part of a human body.

10 Magnetic resonance **imaging** system

11 Programmable system controller

Title Terms /Index Terms/Additional Words: ENERGY; DEPOSIT; METHOD; BRAIN; EMIT; ELECTROMAGNET; **RADIATE**; ANTENNA; RANGE; FREQUENCY; EFFECT; CAUSE; TARGET; SUBSTANCE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-0005/055	A	I	F	B	20060101
A61B-0005/055	C	I	L	B	20060101

File Segment: EngPI; EPI;
DWPI Class: S01; S03; S05; P31
Manual Codes (EPI/S-X): S01-E02A2; S03-E07A; S05-A03E2; S05-D02B

5/5/3 (Item 3 from file: 350)
Derwent WPIX
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0014913532 *Drawing available*
WPI Acc no: 2005-261208/200527
Related WPI Acc No: 2007-268773
XRPX Acc No: N2005-214466

Animal e.g. mouse, or human deep tissue spectral imaging method for e.g. biological purpose, involves processing stored images of spectrally filtered radiation to construct deep tissue image of sample

Patent Assignee: CAMBRIDGE RES & INSTR INC (CAMB-N); LEVENSON R (LEVE-I)
Inventor: CRONIN P; CRONIN P J; GOSSAGE K; GOSSAGE K W; HOYT C; HOYT C C; LEVENSON R; LEVENSON R M; LEVENSSON R M

Patent Family (4 patents, 107 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20050065440	A1	20050324	US 2003669101	A	20030923	200527	B
WO 2005040769	A2	20050506	WO 2004US31609	A	20040923	200531	E
EP 1681993	A2	20060726	EP 2004816892	A	20040923	200649	E
			WO 2004US31609	A	20040923		
EP 1757223	A2	20070228	EP 2004816892	A	20040923	200718	E
			EP 200614263	A	20040923		

Priority Applications (no., kind, date): US 2003669101 A 20030923

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 20050065440	A1	EN	20	10		
WO 2005040769	A2	EN				
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
Regional Designated States,Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					

EP 1681993	A2	EN			PCT Application	WO 2004US31609
					Based on OPI patent	WO 2005040769
Regional Designated States,Original	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR					
EP 1757223	A2	EN			Division of application	EP 2004816892
					Division of patent	EP 1681993
Regional Designated States,Original	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR					

Alerting Abstract US A1

NOVELTY - The method involves illuminating a sample (112) to cause the sample to emit **radiation**, and spectrally filtering the emitted **radiation** with different spectral weighting functions. An **image** of the spectrally filtered **radiation** for each function is stored. The stored **images** are processed to construct a **deep tissue image** of the sample in which signal from compounds is reduced relative to signal from a target compound.
DESCRIPTION - An INDEPENDENT CLAIM is also included for an apparatus comprising a computer readable medium which stores a program that causes a processor to perform a method
USE - Used for spectral **imaging** of a **deep tissue** of animals e.g. mice and zebrafish, or humans for laboratory research and biological purposes.
ADVANTAGE - The method improves detection of target compounds such as green fluorescent protein (GFP), quantum dots, and fluorescent probes that are used for **deep tissue imaging** in a variety of biological samples. The method is compatible with such compounds, without requiring extreme sensitivity from an **imaging** detector.
DESCRIPTION OF DRAWINGS - The drawing shows a schematic diagram of a spectral **imaging** system.
112 Sample
120 Illuminator
140 **Imaging** system
150 Camera
180 Computer

Title Terms /Index Terms/Additional Words: ANIMAL; MOUSE; HUMAN; DEEP; TISSUE; SPECTRAL ; **IMAGE**; METHOD; BIOLOGICAL; PURPOSE; PROCESS; STORAGE; FILTER; **RADIATE**; CONSTRUCTION; SAMPLE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-0005/00	A	I		R	20060101
A61B-0005/00	A	I	F	B	20060101
G01J-0003/32	A	I		R	20060101
G01J-0003/44	A	I		R	20060101
G01J-0003/453	A	I		R	20060101
A61B-0005/00	C	I		R	20060101
A61B-0005/00	C	I	L	B	20060101
A61B-0005/00	C	I		B	20060101
G01J-0003/30	C	I		R	20060101
G01J-0003/44	C	I		R	20060101
G01J-0003/45	C	I		R	20060101

US Classification, Issued: 600477000, 356300000, 250459100, 600476000

File Segment: EngPI; EPI;
DWPI Class: S03; S05; T01; P31
Manual Codes (EPI/S-X): S03-E04D3; S03-E14H; S05-D02X; T01-J06A; T01-J10B1; T01-J13A; T01-S03

5/5/4 (Item 4 from file: 350)
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0014129188 *Drawing available*
WPI Acc no: 2004-313781/200429
XRAM Acc no: C2004-119161
XRPX Acc No: N2004-249815

Monopole phased array thermo-therapy applicator for deep tumor therapy, has monopole elements, metallic waveguide, waveform generator, electric field probe(s), and controller circuit

Patent Assignee: CELSION CORP (CELS-N); FENN A J (FENN-I); MON J (MONJ-I); SMITH D (SMIT-I)
Inventor: FENN A J; MON J; SMITH D

Patent Family (8 patents, 104 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20040044385	A1	20040304	US 2002233012	A	20020903	200429	B
WO 2004022159	A1	20040318	WO 2003US26964	A	20030829	200429	E
AU 2003262948	A1	20040329	AU 2003262948	A	20030829	200459	E
US 6807446	B2	20041019	US 2002233012	A	20020903	200469	E
EP 1549396	A1	20050706	EP 2003794521	A	20030829	200544	E
			WO 2003US26964	A	20030829		
JP 2005537109	W	20051208	WO 2003US26964	A	20030829	200580	E
			JP 2004534347	A	20030829		
CN 1688362	A	20051026	CN 2003824281	A	20030829	200618	E
IN 200500472	P2	20060512	WO 2003US26964	A	20030829	200643	E
			IN 2005KN472	A	20050321		

Priority Applications (no., kind, date): US 2002233012 A 20020903

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 20040044385	A1	EN	32	22		
WO 2004022159	A1	EN				

National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
Regional Designated States,Original	AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
AU 2003262948	A1	EN			Based on OPI patent	WO 2004022159
EP 1549396	A1	EN			PCT Application	WO 2003US26964

					Based on OPI patent	WO 2004022159
Regional Designated States,Original	AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
JP 2005537109	W	JA	26		PCT Application	WO 2003US26964
					Based on OPI patent	WO 2004022159
IN 200500472	P2	EN			PCT Application	WO 2003US26964

Alerting Abstract US A1

NOVELTY - A monopole phased array thermo-therapy applicator, comprises monopole elements for transmitting electric-field **radiation**; a metallic waveguide with a radio frequency reflecting ground plane surface; a waveform generator providing a source of electric field; electric field probe(s) for detecting electric field **radiation**; and a controller circuit to adjust the phase and power delivered to the monopole elements.

DESCRIPTION - A monopole phased array thermo-therapy applicator (100) **radiating** radio-frequency (RF) energy for inducing a temperature rise in a target within a body, comprises monopole elements each for transmitting electric-field **radiation**; a metallic waveguide with an RF reflecting ground plane surface with circular holes for mounting the monopole elements; a waveform generator providing a source of electric field coupled to each monopole **radiating** element through a respective phase and power weighting network; electric field probe(s) positioned on a skin surface of the body for detecting electric field **radiation** from the monopole elements; and a controller circuit coupled to the electric field probe received feedback signals to adjust the phase and power delivered to the monopole elements so that one or more adaptive nulls are formed on the body surface and a focus is formed at the target tissue to be treated with thermo-therapy. The metallic waveguide forms an aperture (300) for receiving a body to be treated.

USE - For deep tumor therapy.

ADVANTAGE - The invention is capable of clinically treating many different types of deep-seated tumors (cancerous and benign) such as those occurring in the prostate, breast, liver, rectum, colon, cervix, pancreas, stomach, bladder, lung and other deep organ sites in a human body.

DESCRIPTION OF DRAWINGS - The figure shows thermo-therapy system where a monopole array elements are each driven adaptively by RF phase shifter and power amplifier devices.

80 RF phase shifter

90 Power amplifier

100 Monopole phased array thermo-therapy applicator

200 Elliptical shaped acrylic plastic tube

300 Aperture

Title Terms /Index Terms/Additional Words: MONOPOLAR; PHASE; ARRAY; THERMO; THERAPEUTIC ; APPLY; DEEP; TUMOUR; ELEMENT; METALLIC; WAVEGUIDE; WAVEFORM; GENERATOR; ELECTRIC; FIELD; PROBE; CONTROL; CIRCUIT

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61N-001/40			Main		"Version 7"
A61F-007/12; A61N-001/06			Secondary		"Version 7
A61N-0001/40	A	I		R	20060101

A61N-0001/40	C	I		R	20060101

US Classification, Issued: 607100000, 607101000, 606033000, 607156000

File Segment: CPI; EngPI; EPI
DWPI Class: A96; S05; T01; W02; P32; P34
Manual Codes (EPI/S-X): S05-B03; T01-J06A; W02-B01C; W02-B05B; W02-B05D; W02-B10
Manual Codes (CPI/A-N): A12-V03D

5/5/5 (Item 5 from file: 350)
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0012954840
WPI Acc no: 2003-031837/200303
XRAM Acc no: C2003-007486
XRPX Acc No: N2003-025183
Radiographic film material for recording diagnostic images of soft tissue, has image-forming portion having front and back layer units which have silver halide emulsion layer(s) coated with cubic emulsion crystals
Patent Assignee: AGFA-GEVAERT (GEVA)
Inventor: VAN DEN ZEGEL M; VANHOUDT F; VAN DEN ZEGEL C O A; VANHOUDT C O A

Patent Family (4 patents, 27 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1246005	A1	20021002	EP 200190	A	20010329	200303	B
US 6573019	B1	20030603	US 2001292041	P	20010518	200339	E
			US 2002100102	A	20020318		
EP 1246005	B1	20061025	EP 200190	A	20010329	200670	E
DE 60124070	E	20061207	DE 60124070	A	20010329	200681	E
			EP 200190	A	20010329		

Priority Applications (no., kind, date): EP 200190 A 20010329

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
EP 1246005	A1	EN	20	0		
Regional Designated States,Original	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
US 6573019	B1	EN			Related to Provisional	US 2001292041
EP 1246005	B1	EN				
Regional Designated States,Original	DE FR GB					
DE 60124070	E	DE			Application	EP 200190
					Based on OPI patent	EP 1246005

Alerting Abstract EP A1

NOVELTY - A radiographic film material has a transparent film support, front and back major faces and an **image**-forming portion. The **image**-forming portion has hydrophilic front and back layer units coated on front and back major faces of the support, respectively. Both the front and the back layer units, have one or more light-sensitive silver halide emulsion layer(s) coated with cubic emulsion crystals.

DESCRIPTION - A radiographic film material has a transparent film support, front and back major faces and an **image**-forming portion. The **image**-forming portion has hydrophilic front and back layer units coated on front and back major faces of the support, respectively. Both the front and the back layer units permeable for aqueous processing solutions, have one or more light-sensitive silver halide emulsion layer(s) coated with cubic emulsion crystals. The **image**-forming portion when imagewise exposed by light emitted from intensifying screen and processed, has an average contrast or gradient of 3-4.5, measured over a density of 0.25-2 above fog. The front layer unit reaches a maximum density of more than 3. The sensitivity (speed), measured at a density of 0.50 above fog, is higher for the front layer unit than the back layer unit and is 0.70-1.70 log (exposure). The radiographic film material records medical diagnostic **images** of soft tissue by exposing to X-rays emitted from an X-ray generating device with a tube voltage of 20-40 kV, then exposing to light emitted by a single intensifying screen and then processing, developing, fixing and drying for 120 seconds or less.

An INDEPENDENT CLAIM is included for forming a medical diagnostic **image** of soft tissue.

USE - For recording medical diagnostic **images** of soft tissue and for mammographic applications.

ADVANTAGE - The radiographic film material has high diagnostic quality, lower loss of contrast in a high density region and large dynamic range. Since the material has high contrast, small lesions **deep** in the glandular **tissue** are accurately detected without disturbing sites or strikes. The film material clearly depicts thin tissue such as the skin line of the breast. The film material is processed rapidly with reduced drying time and good developability, hence neutral silver **image** color without having residual sensitizing dye after processing is obtained. The **image** obtained has high sharpness, good **image** tone, archivability and drying capacity.

Title Terms /Index Terms/Additional Words: RADIOGRAPHIC; FILM; MATERIAL; RECORD; DIAGNOSE; **IMAGE**; SOFT; TISSUE; FORMING; PORTION; FRONT; BACK; LAYER; UNIT; SILVER; HALIDE; EMULSION; COATING; CUBE; CRYSTAL

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G03C-0001/46	A	I	L	B	20060101
G03C-0001/46	A	I		R	20060101
G03C-0005/17	A	I	F	B	20060101
G03C-0005/17	A	I		R	20060101
G03C-0001/46	A	I	L		20060101
G03C-0005/17	A	I	F		20060101
G03C-0001/46	C	I		R	20060101
G03C-0005/16	C	I	F	B	20060101
G03C-0005/16	C	I		R	20060101
G03C-0005/16	C	I	F		20060101

US Classification, Issued: 430502000, 430507000, 430567000, 430966000, 430139000

File Segment: CPI; EngPI
DWPI Class: G06; P83
Manual Codes (CPI/A-N): G06-A09; G06-D01; G06-F01

5/5/6 (Item 6 from file: 350)
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0012486447 *Drawing available*
WPI Acc no: 2002-433602/200246
XRPX Acc No: N2002-341171
Object effect sensing system for medical applications, has array of transducers to transmit coded, semi-collimated beam segments to objects in field of view and another array of transducers to process reflected signals
Patent Assignee: BULLIS J K (BULL-I)
Inventor: BULLIS J K

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 6368276	B1	20020409	US 1999448023	A	19991123	200246	B

Priority Applications (no., kind, date): US 1999448023 A 19991123

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 6368276	B1	EN	44	25	

Alerting Abstract US B1
NOVELTY - The transmitting and receiving array of transducers (12) are in approximate orthogonal arrangement to define a field of view in two dimensions. The transmitting array of transducer transmits coded signals **radiating** through the field of view, causing multiple coded, semi-collimated beam segments to form in transmit regions of the field of view. The reflected signals from the objects in transmit regions are received and processed to form code channels.
DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1. Object effect sensing apparatus; and

2. Medical **imaging** system.

USE - For medical **imaging** system (claimed) used in medical **applications**, military applications.

ADVANTAGE - Deep penetration operation in attenuating **tissue is** enhanced by the semi-collimated beams which improves signal-to-noise ratio. Thus, the medical treatment features are enabled and enhanced at greater depth.
DESCRIPTION OF DRAWINGS - The figure shows a comprehensive medical system.
12Transducers

Title Terms /Index Terms/Additional Words: OBJECT; EFFECT; SENSE; SYSTEM; MEDICAL; APPLY; ARRAY; TRANSDUCER; TRANSMIT; CODE; SEMI; COLLIMATE; BEAM; SEGMENT; FIELD; VIEW; PROCESS; REFLECT; SIGNAL

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-008/00			Main		"Version 7"

US Classification, Issued: 600437000

File Segment: EngPI; EPI;
DWPI Class: S05; V06; P31
Manual Codes (EPI/S-X): S05-D02X; V06-E

5/5/7 (Item 7 from file: 350)
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0010480122
WPI Acc no: 2001-080313/200109
XRAM Acc no: C2001-023000
XRPX Acc No: N2001-061216
Diagnosis or imaging of a particular volume of material using light to promote multi-photon excitation of a photo-active molecular agent and detection of a signal characteristic of the volume
Patent Assignee: PHOTOGEN INC (PHOT-N)
Inventor: DEES; DEES H C; FISHER W; SMOLIK J; WACHTER E

Patent Family (5 patents, 89 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2000071028	A1	20001130	WO 2000US14169	A	20000523	200109	B
AU 200052830	A	20001212	AU 200052830	A	20000523	200115	E
EP 1187555	A1	20020320	EP 2000937691	A	20000523	200227	E
			WO 2000US14169	A	20000523		
JP 2003500094	W	20030107	JP 2000619344	A	20000523	200314	E
			WO 2000US14169	A	20000523		
TW 487565	A	20020521	TW 2000110128	A	20000621	200320	E

Priority Applications (no., kind, date): US 1999135886 P 19990526; US 2000569982 A 20000510

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 2000071028	A1	EN	74	12		
National Designated States,Original	AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
Regional Designated States,Original	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
AU 200052830	A	EN			Based on OPI patent	WO 2000071028
EP 1187555	A1	EN			PCT Application	WO 2000US14169
					Based on OPI patent	WO 2000071028
Regional Designated States,Original	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2003500094	W	JA	72		PCT Application	WO 2000US14169
					Based on OPI patent	WO 2000071028
TW 487565	A	ZH				

Alerting Abstract WO A1

NOVELTY - A method for diagnosis or **imaging** of a volume of material using light to promote multi-photon excitation of a photo-active molecular agent (PAMA) and detection of a signal characteristic of the volume, is new.

DESCRIPTION - A method for diagnosis or **imaging** a volume of material, where the material contains at least one PAMA comprises:

A. treating the particular volume of the material with light to promote multi-photon excitation of the PAMA contained in the volume of the material;

B. photo-activating at least one of the PAMAs in the volume of the material, thus producing at least one photo-activated molecular agent (PAdMA), where the PAdMA emits energy;

C. detecting the energy emitted by the PAdMA; and

D. producing a detected energy signal which is characteristic of the volume of material.

INDEPENDENT CLAIMS are also included for the following:

3. an apparatus for diagnosis or **imaging** a particular volume of material containing at least one PAMA comprising:

A. a source **of** light having a frequency to penetrate into the materials, the light being adapted to promote multi-photon excitation of the molecular agent contained within the material;

B. focusing apparatus for focusing the light throughout a range of focal lengths extending from a surface of the material to a depth beyond the surface, the light source and focusing apparatus cooperating to promote multi-photon excitation of the molecular agent, where a focal point or focal plane is adjustable with respect to the material; and

C. a detector positioned to detect the light emitted by the molecular agent and the detector configured to produce a detected signal characteristic of the particular volume at which the light source has been focused;

4. a method for medical diagnostic **imaging** comprising:

A. introducing a PAMA into a tissue, the agent being selected for specificity of the tissue of interest, the agent being susceptible to multi-photon **excitation**;

B. allowing the agent to accumulate in a specific tissue of interest;

C. directing light to specific regions of interest within the tissue, including regions below a tissue surface, the light being selected in frequency and energy to penetrate the tissue and to promote multi-photon excitation only at a focal zone;

D. controlling the location of the focal zone over a range of depths within the tissue;

E. using multi-photon excitation, photoactivating the agent over the range of depths within the tissue, thus producing photo-activated agents at the focal zone, where the PAMA emits energy;

F. detecting the emitted energy; and

G. producing a detected energy signal that is characteristic of tissue at the focal zone;

5. an apparatus for medical diagnostic **imaging** comprising:

A. a light source producing light directed to or into tissue to be **imaged**, the light being selected in frequency and energy to penetrate into or below a surface of the tissue and to promote multi-photon excitation only in a region to be **imaged**;

B. **a** focusing apparatus being able to vary the position of the light within a range of depths in the **region** of tissue to be **imaged**;

C. a detector positioned to receive and detect **radiation** emitted by a PAMA within the material after the agent has been excited using multi-photon excitation;

6. **a** method for characterizing a material including at least one PAMA comprising:

A. encoding light from a light source with a modulation pattern to produce a modulated light;

B. **treating** the material with the modulated light to promote multi-**photon** excitation of the PAMA so that the excited molecular agent becomes photoactivated in the material and emits a modulated energy; and

C. producing a detected modulated energy signal which is characteristic of the material;

7. a method for characterizing a particular volume of tissue, where the tissue includes at least one PAMA, comprising:

A. encoding light from a light source with a modulation pattern to produce a modulated light;

B. directing light to specific regions of interest within the tissue, including regions below a tissue surface, the light being selected to penetrate the tissue and to promote multi-photon excitation only at locations within a focal zone;

C. controlling the locations of the focal zone over a range of depths within a focal zone;

D. using multi-photon excitation, photo-activating the agent over the range of depths within the tissue, so that the excited molecular agent becomes photoactivated only at the focal zone, where the photoactivated agent emits a modulated energy;

E. detecting a portion of the emitted modulated energy; and

F. producing a detected modulated energy signal which is characteristic of the tissue;

8. a method for the diagnostic characterization of tissue, the tissue having a surface and being relatively transparent to light having preselected characteristics comprising:

A. introducing a selected photoactive agent into a tissue, the agent being susceptible to multi-photon excitation;

B. allowing the agent to accumulate at features of interest, if any, within the tissue;

C. operating a laser to obtain a beam of light having the preselected characteristics;

D. directing the laser beam to specific regions of interest within the tissue, including regions below the tissue surface, including penetrating the tissue with the beam and promoting multi-photon excitation of the agent only at locations within a focal zone;

E. moving the locations of the focal zone over a cross sectional area located at a range of depths within the tissue to define an examined volume;

F. using multi-photon excitation, photoactivating any of the agent which has accumulated at any feature of interest within the examined volume through which the focal zone passes, thus producing a photoactivated agent at each feature of interest when the focal zone intersects the feature of interest, where the photoactivated agent emits energy;

G. detecting the emitted energy; and

H. producing a detected energy signal that -is characteristic of tissue at the focal zone.

USE - The methods can be used in diagnostic and **imaging** applications for *in vivo* detection or characterization of disease in plant and animal tissue. In particularly they can be used for *in vivo* **detection** and imaging of disease and other characteristics of tissues, such as cancer in the human breast. They can also be used for laser scanning microscopy.

ADVANTAGE - The methods provide for a reduction of **interference** from absorption and scattering processes originating from the environment surrounding the excited agent, improved activation depths, improved efficiency, and enhanced control over location and specificity for the excited agent. **The** methods facilitate controlled activation of **diagnostic or** imaging **agents in** deep tissue or in other specimens using near infrared **to** infrared radiation, which is absorbed and scattered to a lesser extent than during the **methods** and radiations currently used.

Title Terms /Index Terms/Additional Words: DIAGNOSE; **IMAGE**; VOLUME; MATERIAL; LIGHT; PROMOTE; MULTI; PHOTON; EXCITATION; PHOTO; ACTIVE; MOLECULAR; AGENT; DETECT; SIGNAL; CHARACTERISTIC

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-010/00; A61B-006/00			Main		"Version 7"
G01N-021/64			Secondary		"Version 7

File Segment: CPI; EngPI; EPI
DWPI Class: B04; D16; S05; P31
Manual Codes (EPI/S-X): S05-D02
Manual Codes (CPI/A-N): B04-C02; B04-E03; B04-G01; B04-J01; B04-K01; B04-L01; B04-N02; B11-C07B; B12-K04A; D05-H09

5/5/8 (Item 8 from file: 350)
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0008756545
WPI Acc no: 1998-299377/199827
XRAM Acc no: C1998-093411
XRPX Acc No: N1998-234214
Equipment for measuring radiation dose deep in human tissue - comprises detector formed by transparent scintillator array in blocks simulating biological tissue and observed by optical receiver
Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP (MITQ)
Inventor: IKEGAMI K; MADONO K; NISHIZAWA H; SENOO S; TERATANI E

Patent Family (6 patents, 4 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
DE 19751545	A1	19980528	DE 19751545	A	19971120	199827	B
JP 10153662	A	19980609	JP 1996311062	A	19961121	199833	E
NL 1007593	C2	19981020	NL 1007593	A	19971120	199901	E
US 6066851	A	20000523	US 1997974552	A	19971119	200032	E
DE 19751545	B4	20050721	DE 19751545	A	19971120	200548	E
JP 3841898	B2	20061108	JP 1996311062	A	19961121	200673	E

Priority Applications (no., kind, date): JP 1996311062 A 19961121; DE 19751545 A 19971120

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
DE 19751545	A1	DE	18	14		
JP 10153662	A	JA	11			
JP 3841898	B2	JA	16		Previously issued patent	JP 10153662

Alerting Abstract DE A1

A unit for measuring three-dimensional penetration and local dosage distribution due to **radiation** includes a particulate **radiation** detector (202). This contains a scintillator with absorption characteristics corresponding to those of biological tissue. This emits light when irradiated (201). An **image** receiver (204) picks up the optical **image**, intercepting light emitted from the detector. The measuring instrument (205) processes the receiver signal, to measure **radiation** dose distribution. This is seen as emitted light in the two-dimensional plane corresponding to the surface of the detector. The novel feature is the movement of detector and receiver as a unit, by a drive (206). Thus the three-dimensional distribution of **radiation** dose is illustrated and determined from scintillation, within the irradiated volume. Also claimed is a detector for particulate **radiation**, comprising a tissue-like main block reflecting light, which has holes containing tissue-like fluid scintillator fillings and is covered by a transparent, tissue-like material.
USE - To measure **radiation** dose in three dimensions, as received **deep** in human **tissue**.
ADVANTAGE - This system is designed to measure **radiation** doses received deep in the body, rapidly and accurately. High resolution measurements are taken. The result is characteristic of the field of **radiation** present and its effect on the human body.

Title Terms /Index Terms/Additional Words: EQUIPMENT; MEASURE; **RADIATE**; DOSE; DEEP; HUMAN; TISSUE; COMPRISE; DETECT; FORMING; TRANSPARENT; SCINTILLATION; ARRAY; BLOCK; SIMULATE; BIOLOGICAL; OBSERVE; OPTICAL; RECEIVE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G01T-0001/00	A	I	L	R	20060101
G01T-0001/02	A	I		R	20060101
G01T-0001/20	A	I		R	20060101
G01T-0001/204	A	I		R	20060101
G21K-0004/00	A	I	F	R	20060101
G01T-0001/00	A	I	L	B	20060101
G01T-0001/20	A	I	F	B	20060101
G21K-0004/00	A	I	L	B	20060101
G01T-0001/00	C	I		R	20060101
G01T-0001/02	C	I		R	20060101
G21K-0004/00	C	I	F	R	20060101
G01T-0001/00	C	I	F	B	20060101

US Classification, Issued: 250368000, 250363010, 250367000

File Segment: CPI; EPI
DWPI Class: B04; K08; S03; S05
Manual Codes (EPI/S-X): S03-G02A; S03-G02B1; S03-G02C1; S05-D02C
Manual Codes (CPI/A-N): B04-F02; B11-C07B5; B12-K04; K08-A; K09-B

5/5/9 (Item 9 from file: 350)

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0008756449 *Drawing available*
WPI Acc no: 1998-299279/199827
XRPX Acc No: N1998-234130

Radiation dose measurement system for e.g. X-ray or electron irradiation - has detector block including scintillation fibres which simulates tissue deep within body and emits light, which passes through spectroscope to measurement, processing and imaging systems

Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP (MITQ)
Inventor: IKEGAMI K; MADONO K; NISHIZAWA H; SENOO S; TERATANI E; TERATANI F

Patent Family (6 patents, 4 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
DE 19723445	A1	19980528	DE 19723445	A	19970604	199827	B
JP 10153663	A	19980609	JP 1996315028	A	19961126	199833	E
NL 1006398	C6	19980708	NL 1006398	A	19970625	199840	E
US 5905263	A	19990518	US 1997864462	A	19970529	199927	E
JP 3518206	B2	20040412	JP 1996315028	A	19961126	200425	E
DE 19723445	B4	20051229	DE 19723445	A	19970604	200603	E

Priority Applications (no., kind, date): DE 19723445 A 19970604; JP 1996315028 A 19961126

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
DE 19723445	A1	DE	14	8		
JP 10153663	A	JA	6			
JP 3518206	B2	JA	6		Previously issued patent	JP 10153663

Alerting Abstract DE A1
The system includes a detector unit (202), which receives a particle beam (201) as an input. Scintillation is excited, and the light leaves via an end surface.
The light enters an **image** signal processing unit (203,204) and passes ultimately to a display unit (207), registering the result. The quantity of light emitted is measured in accordance with the emission spectrum of the detector.
USE - E.g. for cancer treatment.
ADVANTAGE - Allows measurement of depth dose in short time. Provides measurement of dose distribution with high accuracy.

Title Terms /Index Terms/Additional Words: **RADIATE**; DOSE; MEASURE; SYSTEM; X-RAY ; ELECTRON; IRRADIATE; DETECT; BLOCK; SCINTILLATION; FIBRE; SIMULATE; TISSUE; DEEP; BODY; EMIT; LIGHT; PASS; THROUGH; SPECTROSCOPE; PROCESS; **IMAGE**

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61N-005/00; G01T-001/02; G01T-001/20			Main		"Version 7"
A61N-005/10; G01N-021/25; G01T-001/22; G21K-004/00			Secondary		"Version 7

US Classification, Issued: 250368000, 250367000

File Segment: EngPI; EPI;
DWPI Class: S03; S05; P34
Manual Codes (EPI/S-X): S03-G02A; S03-G02B1; S05-D02A; S05-D02C

5/5/10 (Item 10 from file: 350)
Derwent WPIX
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0008754807
WPI Acc no: 1998-297469/199826
Related WPI Acc No: 1998-297470; 2000-116426; 2000-195427; 2000-205542; 2000-376044; 2000-442746; 2001-234893; 2001-589396; 2001-625854; 2002-041272; 2002-227001; 2003-787499; 2005-131084; 2005-531387; 2006-055240; 2006-330516; 2006-330520; 2007-219614
XRAM Acc no: C1998-092666
XRPX Acc No: N1998-232764
Improved methods and apparatus for imaging plant or animal tissues - using simultaneous two-photon excitation of photoactive molecular agents present in tissue and detection of energy emitted from agents
Patent Assignee: PHOTOGEN INC (PHOT-N)
Inventor: DEES H C; FISHER W G; WACHTER E A

Patent Family (13 patents, 77 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1998018398	A1	19980507	WO 1997US19249	A	19971027	199826	B
AU 199854254	A	19980522	AU 199854254	A	19971027	199840	E
US 5832931	A	19981110	US 1996741370	A	19961030	199901	E
NO 199901493	A	19990527	WO 1997US19249	A	19971027	199931	E
			NO 19991493	A	19990326		
CN 1226147	A	19990818	CN 1997196813	A	19971027	199951	E
NZ 334191	A	20000128	NZ 334191	A	19971027	200015	E
			WO 1997US19249	A	19971027		
AU 716504	B	20000224	AU 199854254	A	19971027	200020	E
BR 199713979	A	20000502	BR 199713979	A	19971027	200033	E
			WO 1997US19249	A	19971027		
EP 1032321	A1	20000906	EP 1997948121	A	19971027	200044	E
			WO 1997US19249	A	19971027		

KR 2000035894	A	20000626	WO 1997US19249	A	19971027	200111	E
			KR 1999701606	A	19990226		
JP 2001503748	W	20010321	WO 1997US19249	A	19971027	200122	E
			JP 1998520604	A	19971027		
MX 199904045	A1	20000501	MX 19994045	A	19990430	200129	E
IL 128356	A	20011125	IL 128356	A	19971027	200215	E

Priority Applications (no., kind, date): US 1996741370 A 19961030; WO 1997US19249 A 19971027

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1998018398	A1	EN	70	13		
National Designated States,Original	AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
Regional Designated States,Original	AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 199854254	A	EN			Based on OPI patent	WO 1998018398
NO 199901493	A	NO			PCT Application	WO 1997US19249
NZ 334191	A	EN			PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
AU 716504	B	EN			Previously issued patent	AU 9854254
					Based on OPI patent	WO 1998018398
BR 199713979	A	PT			PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
EP 1032321	A1	EN			PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
KR 2000035894	A	KO			PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
JP 2001503748	W	JA	80		PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
IL 128356	A	EN			Based on OPI patent	WO 1998018398

Alerting Abstract WO A1

The following are claimed: e.g. (A) **imaging** a volume of material, which contains at least one photoactive molecular agent (PMA), comprising: (a) treating the material with light, to promote a simultaneous two-photon excitation (TPE) of the PMA; (b) photoactivating one or more PMAs in the materials, to produce at least one photoactivated molecular agent which emits energy; (c) detecting the energy emitted; and (d) producing a detected energy signal which is characteristic of the volume of material. (B) **imaging** apparatus, for **imaging** a volume of plant or animal

tissue which contains at least one PMA, comprising: (a) a source of collimated light, where the light has a frequency which is able to penetrate the tissue and can promote simultaneous TPE of the PMA in the tissue; (b) focusing apparatus (for focusing the collimated light throughout a range of focal lengths extending from the surface of the tissue to a depth beyond the surface) which cooperates with the light source to promote TPE of the PMA; and (c) a detector located proximate to the tissue and positioned to detect the light emitted by the PMA which travels along a path that does not retrace an optical path of the light incident on the tissue.
USE - The processes may be used for activation of various endogenous and exogenous **imaging** agents, e.g., for diagnosis of diseases in humans and animals.
ADVANTAGE - The processes use non-linear, simultaneous two-photon optical excitation to remotely photoactivate one or more PMAs with a high degree of spatial control and improved depth of penetration. The processes achieve reduced collateral excitation and damage along the excitation path, reduced exposure to harmful optical wavelengths, and reduced interference from absorption and scattering processes originating from the environment surrounding the excited agent.

Title Terms /Index Terms/Additional Words: IMPROVE; METHOD; APPARATUS; **IMAGE**; PLANT; ANIMAL; TISSUE; SIMULTANEOUS; TWO; PHOTON; EXCITATION; PHOTOACTIVE; MOLECULAR; AGENT; PRESENT; DETECT; ENERGY; EMIT

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-019/00; A61K-049/00			Main		"Version 7"
G01N-021/64			Secondary		"Version 7
A61B-0017/00	A	N		R	20060101
A61K-0041/00	A	I		R	20060101
A61K-0049/00	A	I		R	20060101
G01N-0021/64	A	I	F	R	20060101
A61B-0017/00	C	N		R	20060101
A61K-0041/00	C	I		R	20060101
A61K-0049/00	C	I		R	20060101
G01N-0021/64	C	I	F	R	20060101

US Classification, Issued: 600300000, 600476000, 128898000

File Segment: CPI; EngPI
DWPI Class: B04; C07; D16; P31
Manual Codes (CPI/A-N): B04-F02; B04-F08; B11-C07B2; B12-K04; C04-F02; C04-F08; C11-C07B2; C12-K04; D05-H09

5/5/11 (Item 11 from file: 350)
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0008632290 *Drawing available*

WPI Acc no: 1998-169296/199815
XRPX Acc No: N1998-134346

Examining biological tissue with non-ionising radiation esp. for measuring blood flow in deep tissue layers - only considering intensity values of spectrum with greater or lower frequency than threshold serving as measurement for average photon penetration depth

Patent Assignee: SIEMENS AG (SIEI)
Inventor: MITIC G; SOELKNER G

Patent Family (2 patents, 19 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1998008076	A1	19980226	WO 1997DE1662	A	19970806	199815	B
DE 19634152	A1	19980305	DE 19634152	A	19960823	199815	E

Priority Applications (no., kind, date): DE 19634152 A 19960823

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
WO 1998008076	A1	DE	22	5	
National Designated States,Original	JP US				
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE				
DE 19634152	A1	DE	8		

Alerting Abstract WO A1

The method involves irradiating a first region of the tissue surface or the surface of a body containing the tissue, with non- ionising, coherent electromagnetic **radiation**. The stray **radiation** emitted from a second region of the tissue or body surface is examined. The power spectrum of the stray **radiation** is then determined.

Only those intensity values of the power spectrum whose frequency is greater than or less than a threshold frequency are taken into consideration when determining the characteristics of the tissue. The threshold value serves as a measurement for the average penetration depth of the photons.

USE - For e.g. safe diagnosis of breast cancers etc. without causing damage to tissue.

ADVANTAGE - Provides accurate results even for **deep tissue**.

Title Terms /Index Terms/Additional Words: BIOLOGICAL; TISSUE; NON; IONISE; **RADIATE**; MEASURE; BLOOD; FLOW; DEEP; LAYER; INTENSITY; VALUE; SPECTRUM; GREATER; LOWER; FREQUENCY; THRESHOLD; SERVE; AVERAGE; PHOTON; PENETRATE; DEPTH

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-006/03; G01N-021/47			Main		"Version 7"

A61B-005/14			Secondary		"Version 7

File Segment: EngPI; EPI;
DWPI Class: S02; S03; S05; P31
Manual Codes (EPI/S-X): S02-G02X; S03-E04C3; S05-D01B1B; S05-D01J; S05-D02X

5/5/12 (Item 12 from file: 350)
Derwent WPIX
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0007866652 *Drawing available*
WPI Acc no: 1996-497312/199649
XRPX Acc No: N1996-419420
System for determining location of radio-labelled tissue, such as tumour, for diagnostic testing within body - uses radiation detecting device such as hand-held probe or camera, associated signal processing device and signal analyser
Patent Assignee: CARE WISE MEDICAL PROD CORP (CARE-N)
Inventor: CARROLL G; CARROLL R; CARROLL R G; MADDEN N; MCKELLAR A; MCKELLAR L; MCKELLAR L A; PEHL H; PEHL R; PEHL R H

Patent Family (10 patents, 20 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1996033652	A1	19961031	WO 1996US5479	A	19960419	199649	B
US 5694933	A	19971209	US 1995430589	A	19950428	199804	E
EP 830079	A1	19980325	EP 1996912943	A	19960419	199816	E
			WO 1996US5479	A	19960419		
JP 11511239	W	19990928	JP 1996532612	A	19960419	199952	E
			WO 1996US5479	A	19960419		
US 6135955	A	20001024	US 1995430589	A	19950428	200055	E
			US 1997958417	A	19971027		
CA 2219353	C	20020226	CA 2219353	A	19960419	200224	E
			WO 1996US5479	A	19960419		
EP 830079	B1	20041103	EP 1996912943	A	19960419	200475	E
			WO 1996US5479	A	19960419		
DE 69633782	E	20041209	DE 69633782	A	19960419	200481	E
			EP 1996912943	A	19960419		
			WO 1996US5479	A	19960419		
DE 69633782	T2	20051103	DE 69633782	A	19960419	200572	E
			EP 1996912943	A	19960419		
			WO 1996US5479	A	19960419		
JP 3720055	B2	20051124	JP 1996532612	A	19960419	200577	E
			WO 1996US5479	A	19960419		

Priority Applications (no., kind, date): US 1997958417 A 19971027; US 1995430589 A 19950428

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1996033652	A1	EN	88	15		
National Designated States,Original	CA JP					
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
US 5694933	A	EN	34	15		
EP 830079	A1	EN			PCT Application	WO 1996US5479
					Based on OPI patent	WO 1996033652
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
JP 11511239	W	JA	84		PCT Application	WO 1996US5479
					Based on OPI patent	WO 1996033652
US 6135955	A	EN			Division of application	US 1995430589
					Division of patent	US 5694933
CA 2219353	C	EN			PCT Application	WO 1996US5479
					Based on OPI patent	WO 1996033652
EP 830079	B1	EN			PCT Application	WO 1996US5479
					Based on OPI patent	WO 1996033652
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
DE 69633782	E	DE			Application	EP 1996912943
					PCT Application	WO 1996US5479
					Based on OPI patent	EP 830079
					Based on OPI patent	WO 1996033652
DE 69633782	T2	DE			Application	EP 1996912943
					PCT Application	WO 1996US5479
					Based on OPI patent	EP 830079
					Based on OPI patent	WO 1996033652
JP 3720055	B2	JA	33		PCT Application	WO 1996US5479
					Previously issued patent	JP 11511239
					Based on OPI patent	WO 1996033652

Alerting Abstract WO A1

The system includes a **radiation** receiving device e.g. hand-held probe (22) or camera, positionable to a location adjacent to radio-labelled tissue for detecting photons emitted and for providing electrical signal representative of received photons, signal processor (30B) utilising the electrical signal to produce processed electrical signal representative of the number of photons detected as a function of their energies, and analyser (30I-30R), arranged for analysing at least selected portion of processed signal to establish the location of mass of radio-labelled tissue.

The appts. utilises only detection of short range e.g. 15 to 30 keV characteristic x-rays as signal to guide in orienting probe to site of near-field specific up-take. For **deep** seated tumours within **tissue** or within far field, only gamma rays which originate from far field are selected, in order to localise site of up-take.

USE/ADVANTAGE - For non-destructive testing of materials and structures. Provides choice of which ever signal provides greatest information according to specific surgical or diagnostic problem. Allows measurements of line shape of detected full-energy gamma ray peaks to provide information on depth of sites of up-take.

Title Terms /Index Terms/Additional Words: SYSTEM; DETERMINE; LOCATE; RADIO; LABEL; TISSUE; TUMOUR; DIAGNOSE; TEST; BODY; **RADIATE**; DETECT; DEVICE; HAND; HELD; PROBE; CAMERA; ASSOCIATE; SIGNAL; PROCESS; ANALYSE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-005/05; G01T-001/161			Main		"Version 7"
G01T-007/00			Secondary		"Version 7

US Classification, Issued: 128653100, 128659000, 250363020, 250363100, 600436000, 250363020, 250363100

File Segment: EngPI; EPI;
DWPI Class: S03; S05; P31
Manual Codes (EPI/S-X): S03-C03; S05-D02C

5/5/13 (Item 13 from file: 350)
Derwent WPIX
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0005272923 *Drawing available*
WPI Acc no: 1990-268183/199035
XRPX Acc No: N1990-207534
Deep arterial and coronary lesion imager - uses time delay spectrometry for imaging variations, filters, amplifies and mixes return signal
Patent Assignee: NAT AERO & SPACE ADMIN (USAS)
Inventor: HEYSER R C; LECROISSET D H; ROONEY J A

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US N7444248	N	19900717	US 1989163916	A	19891201	199035	B
			US 1989444248	A	19891201		

Priority Applications (no., kind, date): US 1989163916 A 19891201

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes

US N7444248	N	EN		1	

Alerting Abstract US N
The reflection-mode ultrasonic system uses time-delay spectrometry (TDS) for **imaging** of variations in a property of **deep** arterial and coronary **tissue** within a volume at a range from a transmitting transducer. A receiving transducer mounted concentric with the transmitting transducer provides a return signal that is demodulated by the sweep of the TDS using a balanced mixer to present a complex signal representative of a property within a volume of tissue.
The complex signal is amplified and filtered before mixing with a frequency signal from a local generator to establish a zero range reference for A-scan display of the erturn signal, but before display the offset return signal is transformed by a fast Fourier transform processor from the frequency domain to a time domain to present the return signal for display as a time-based range signal. A B-scan display may be provided by additionally scanning the transducers in a linear path across the tissue.
USE/ADVANTAGE - For medical use, and pollution detection. Non-invasive, doesn't use ionising **radiation**.
@(25pp Dwg.No.4a/6)@

Title Terms /Index Terms/Additional Words: DEEP; ARTERY; CORONARY; LESION; **IMAGE** ; TIME; DELAY; SPECTROSCOPE; VARIATION; FILTER; AMPLIFY; MIX; RETURN; SIGNAL

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G01R-000/01			Secondary		"Version 7

File Segment: EPI;
DWPI Class: S03; S05
Manual Codes (EPI/S-X): S03-E08A; S05-D03

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?  t s18/5/all
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18/5/1 (Item 1 from file: 350)
Derwent WPIX
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0014601581 *Drawing available*
WPI Acc no: 2004-783547/200477
XRPX Acc No: N2004-617535
Real-time visualization and detection method of extravasted/infiltrated fluids in cannulation site of injection, involves imaging portion of body before and during injection using near infrared rays, and comparing images
Patent Assignee: CALLARD D M (CALL-I); CRANE R L (CRAN-I); INFRARED IMAGING SYSTEMS INC (INFR-N); US SEC OF AIR FORCE (USAF)
Inventor: CALLARD D M; CRANE R L

Patent Family (2 patents, 106 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20040215081	A1	20041028	US 2003421270	A	20030423	200477	B
WO 2004093672	A1	20041104	WO 2004US12355	A	20040423	200477	E

Priority Applications (no., kind, date): US 2003421270 A 20030423

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 20040215081	A1	EN	7	3	
WO 2004093672	A1	EN			
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
Regional Designated States,Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				

Alerting Abstract US A1

NOVELTY - A portion of the body near the intendented injection site is illuminated with near infrared (NIR) **radiations** of wavelength 0.3-1 micron and the transmitted light is picked up through narrow passband filter, to generate a baseline **image** of **subdermal** and intradermal **tissues**. An additional **image** during the procedure of injection, is also picked up and compared with the baseline **image** to detect the changes near vasculature.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for monitoring a medical procedure that includes an injection procedure at a portion of the body.

USE - For real-time visualization and detection of extravasted/infiltrated fluids and substances including blood near the cannulation site of an injection e.g. intravascular delivery or extraction of various substances or media. Suits also for other medical procedures like insertion of intravenous (IV) catheter, monitoring arterial bleeding after removal of femoral artery catheter, monitoring extravasation of high pressure-injection contrast dyes-following vessel rupture, correctly administering various medications and **imaging** contrast agents, etc.

ADVANTAGE - Simplifies the detection of occurrence of an infiltration/extravasation in real time in a particular body area of interest. The extravasation/infiltration is detected and analyzed without obstruction or interruption of procedure and even during minor movement of the patient without requiring re-**imaging**.

DESCRIPTION OF DRAWINGS - The figure shows the arrangement of equipment for monitoring extravasted/infiltered fluid, while injected at forearm.

10 forearm
11 IR light source
13 detector
15 syringe
16 infusion area
17 artery or vein

Title Terms /Index Terms/Additional Words: REAL; TIME; DETECT; METHOD; INFILTRATE; FLUID; CANNULA; SITE; INJECTION; **IMAGE**; PORTION; BODY; INFRARED; RAY ; COMPARE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-005/00; A61B-006/00			Main		"Version 7"
A61M-005/168			Secondary		"Version 7

US Classification, Issued: 600473000

File Segment: EngPI; EPI;
DWPI Class: S03; S05; P31
Manual Codes (EPI/S-X): S03-E04A5B; S05-J01A

18/5/2 (Item 2 from file: 350)
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0013034504
WPI Acc no: 2003-113490/200311
XRAM Acc no: C2003-029270
XRPX Acc No: N2003-090261
Biocompatible hollow and/or porous particles, microspheres or nanospheres, useful e.g. in medicine, sensor applications, biology, genetic engineering, analysis or data storage
Patent Assignee: QUELLE G (QUEL-I)
Inventor: QUELLE G

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
DE 10126246	A1	20021205	DE 10126246	A	20010529	200311	B

Priority Applications (no., kind, date): DE 10126246 A 20010529

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
DE 10126246	A1	DE	5	0	Addition to patent	DE 10026620

Alerting Abstract DE A1

NOVELTY - A new biocompatible material (I), for implantation, migration or intercalation in **tissues**, cells or organelles, is new.

DESCRIPTION - A new biocompatible material (I), for implantation, migration or intercalation in **tissues**, cells or organelles, consists of irregular or round, non-resorbable, spherical particles, microspheres or nanospheres having a semi-permeable, permeable or porous outer shell and at least one internal hollow cavity. Alternatively the outer shell can be compact, non-porous and non-permeable; if the particles or microspheres are porous the cavities can be replaced by internal pores; and/or (I) may be resorbable for some applications.

USE - The following uses of (I) are claimed: as a **tissue** augmentation material of size 30 microns-10 mm, for use in human or veterinary medicine, e.g. for plastic, cosmetic or restorative surgery, treating (stress) incontinence or gastroenteric reflux disease or breast implants or for intradermal, **subdermal**, mucosal, subcutaneous or intramuscular implantation; for storing and possibly releasing a wide range of active component, e.g. cells, enzymes, microorganisms, DNA, RNA or growth factors; for delivery of medicinal or cosmetic active agents (specifically after administration by injection, as implants, into body cavities or by spraying, inhalation, sucking, drinking or rubbing), e.g. for bonding to nerve cells, **tumor** cells or **tumor tissues** (*via* reactive sites on the outer shell) and releasing stored antitumor agents; for encapsulating or storing a wide range of electronic or electrical devices or systems, e.g. sensors, signal transmitting or receiving systems or data storage systems; in diagnostic, analytical, sensor, human or veterinary medicinal, biological, data processing, data storage, genetic engineering plant and gene therapeutic applications; or for regulating the life cycle and growth of plants, plant pathogens, microorganisms, insects, useful animals or pest animals.

ADVANTAGE - When used as implants, (I) provide improved **connective** tissue **formation**, migration of **connective** tissue **cells** into the implant and survival rate of **connective** tissue **cells**.

Title Terms /Index Terms/Additional Words: BIOCOMPATIBLE; HOLLOW; POROUS; PARTICLE; MICROSPHERE; USEFUL; MEDICINE; SENSE; APPLY; BIOLOGICAL; GENETIC; ENGINEERING; ANALYSE; DATA; STORAGE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61L-027/56			Main		"Version 7"
A61F-002/00; A61F-002/10			Secondary		"Version 7

File Segment: CPI; EngPI; EPI

DWPI Class: B04; B07; C07; D16; D22; L03; S05; P32; P34

Manual Codes (EPI/S-X): S05-X

Manual Codes (CPI/A-N): B04-C02; B04-C03; B04-E01; B04-L01; B05-B02C; B05-C08; B11-C04A; B11-C08; B12-K04; C04-C02; C04-C03; C04-E01; C04-L01; C05-B02C; C05-C08; C11-C04A; C11-C08; C12-K04; D05-H09; D05-H12; D09-C01; L03-J

18/5/3 (Item 3 from file: 350)
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0012486447 *Drawing available*
WPI Acc no: 2002-433602/200246
XRPX Acc No: N2002-341171
Object effect sensing system for medical applications, has array of transducers to transmit coded, semi-collimated beam segments to objects in field of view and another array of transducers to process reflected signals
Patent Assignee: BULLIS J K (BULL-I)
Inventor: BULLIS J K

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 6368276	B1	20020409	US 1999448023	A	19991123	200246	B

Priority Applications (no., kind, date): US 1999448023 A 19991123

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 6368276	B1	EN	44	25	

Alerting Abstract US B1
NOVELTY - The transmitting and receiving array of transducers (12) are in approximate orthogonal arrangement to define a field of view in two dimensions. The transmitting array of transducer transmits coded signals **radiating** through the field of view, causing multiple coded, semi-collimated beam segments to form in transmit regions of the field of view. The reflected signals from the objects in transmit regions are received and processed to form code channels.
DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

9. Object effect sensing apparatus; and

10. Medical **imaging** system.

USE - For medical **imaging** system (claimed) used in medical **applications**, military applications.
ADVANTAGE - Deep penetration operation in attenuating **tissue is** enhanced by the semi-collimated beams which improves signal-to-noise ratio. Thus, the medical treatment features are enabled and enhanced at greater depth.
DESCRIPTION OF DRAWINGS - The figure shows a comprehensive medical system.
12Transducers

Title Terms /Index Terms/Additional Words: OBJECT; EFFECT; SENSE; SYSTEM; MEDICAL; APPLY; ARRAY; TRANSDUCER; TRANSMIT; CODE; SEMI; COLLIMATE; BEAM; SEGMENT; FIELD; VIEW; PROCESS; REFLECT; SIGNAL

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-008/00			Main		"Version 7"

US Classification, Issued: 600437000

File Segment: EngPI; EPI;
DWPI Class: S05; V06; P31
Manual Codes (EPI/S-X): S05-D02X; V06-E

18/5/4 (Item 4 from file: 350)
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0010555736 *Drawing available*
WPI Acc no: 2001-159351/200116
XRPX Acc No: N2001-116153
Combined imaging and photodynamic therapy (PDT) delivery device, has imaging probe which directs illumination and produces electronic signal indicating identified internal treatment site e.g. tumor in patient body
Patent Assignee: LIGHT SCI CORP (LIGH-N); LIGHT SCI LP (LIGH-N)
Inventor: CHEN J C

Patent Family (3 patents, 22 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2001003770	A1	20010118	WO 2000US10333	A	20000417	200116	B
US 6210425	B1	20010403	US 1999350258	A	19990708	200120	E
AU 200042486	A	20010130	AU 200042486	A	20000417	200127	E

Priority Applications (no., kind, date): US 1999350258 A 19990708

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 2001003770	A1	EN	27	11		
National Designated States,Original	AU CA JP					
Regional Designated States,Original	AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
AU 200042486	A	EN			Based on OPI patent	WO 2001003770

Alerting Abstract WO A1
NOVELTY - An **imaging** probe and a light source are mounted within a housing (22') to direct illumination towards an internal treatment site. Probe generates electronic signal identifying position of internal treatment site e.g. **tumor** (62) within a patient's body.
DESCRIPTION - An INDEPENDENT CLAIM is also included for the method for providing light therapy to internal treatment site of human body.
USE - For identifying internal treatment site e.g. **tumor** within patient's body and treating superficial cutaneous sites e.g. skin lesions and **sub-dermal** diseased **tissue**.
ADVANTAGE - Uses **imaging** device with **imaging** probe which provides accurate guiding of light therapy for treating non-oncologic conditions e.g. atherosclerotic and infectious diseases and destroying diseased **tissues** to stop the growth of undesirable organisms within the patient's body. Reduces dose of light **radiated** to the normal **tissue**.
DESCRIPTION OF DRAWINGS - Figure shows a schematic cross-sectional view of device with a gamma probe used for **imaging** internal **tumor**.
22' Housing
62 **Tumor**

Title Terms /Index Terms/Additional Words: COMBINATION; **IMAGE**; THERAPEUTIC; DELIVER; DEVICE; PROBE; DIRECT; ILLUMINATE; PRODUCE; ELECTRONIC; SIGNAL; INDICATE; IDENTIFY; INTERNAL; TREAT; SITE; PATIENT; BODY

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61N-005/00			Main		"Version 7"

US Classification, Issued: 607088000, 607090000, 600439000, 600436000

File Segment: EngPI; EPI;
DWPI Class: S02; S03; S05; P34
Manual Codes (EPI/S-X): S02-A02F; S03-C04A; S03-C06; S05-D02C

18/5/5 (Item 5 from file: 350)
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0010480122
WPI Acc no: 2001-080313/200109
XRAM Acc no: C2001-023000
XRPX Acc No: N2001-061216
Diagnosis or imaging of a particular volume of material using light to promote multi-photon excitation of a photo-active molecular agent and detection of a signal characteristic of the volume

Patent Assignee: PHOTOGEN INC (PHOT-N)
Inventor: DEES; DEES H C; FISHER W; SMOLIK J; WACHTER E

Patent Family (5 patents, 89 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2000071028	A1	20001130	WO 2000US14169	A	20000523	200109	B
AU 200052830	A	20001212	AU 200052830	A	20000523	200115	E
EP 1187555	A1	20020320	EP 2000937691	A	20000523	200227	E
			WO 2000US14169	A	20000523		
JP 2003500094	W	20030107	JP 2000619344	A	20000523	200314	E
			WO 2000US14169	A	20000523		
TW 487565	A	20020521	TW 2000110128	A	20000621	200320	E

Priority Applications (no., kind, date): US 1999135886 P 19990526; US 2000569982 A 20000510

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 2000071028	A1	EN	74	12		
National Designated States,Original	AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
Regional Designated States,Original	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
AU 200052830	A	EN			Based on OPI patent	WO 2000071028
EP 1187555	A1	EN			PCT Application	WO 2000US14169
					Based on OPI patent	WO 2000071028
Regional Designated States,Original	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2003500094	W	JA	72		PCT Application	WO 2000US14169
					Based on OPI patent	WO 2000071028
TW 487565	A	ZH				

Alerting Abstract WO A1

NOVELTY - A method for diagnosis or **imaging** of a volume of material using light to promote multi-photon excitation of a photo-active molecular agent (PAMA) and detection of a signal characteristic of the volume, is new.

DESCRIPTION - A method for diagnosis or **imaging** a volume of material, where the material contains at least one PAMA comprises:

E. treating the particular volume of the material with light to promote multi-photon excitation of the PAMA contained in the volume of the material;

F. photo-activating at least one of the PAMAs in the volume of the material, thus producing at least one photo-activated molecular agent (PAdMA), where the PAdMA emits energy;

G. detecting the energy emitted by the PAdMA; and

H. producing a detected energy signal which is characteristic of the volume of material.

INDEPENDENT CLAIMS are also included for the following:

11. an apparatus for diagnosis or **imaging** a particular volume of material containing at least one PAMA comprising:

I. a source **of** light having a frequency to penetrate into the materials, the light being adapted to promote multi-photon excitation of the molecular agent contained within the material;

J. focusing apparatus for focusing the light throughout a range of focal lengths extending from a surface of the material to a depth beyond the surface, the light source and focusing apparatus cooperating to promote multi-photon excitation of the molecular agent, where a focal point or focal plane is adjustable with respect to the material; and

K. a detector positioned to detect the light emitted by the molecular agent and the detector configured to produce a detected signal characteristic of the particular volume at which the light source has been focused;

12. a method for medical diagnostic **imaging** comprising:

A. introducing a PAMA into a tissue, the agent being selected for specificity of the tissue of interest, the agent being susceptible to multi-photon **excitation**;

B. allowing the agent to accumulate in a specific tissue of interest;

C. directing light to specific regions of interest within the tissue, including regions below a tissue surface, the light being selected in frequency and energy to penetrate the tissue and to promote multi-photon excitation only at a focal zone;

D. controlling the location of the focal zone over a range of depths within the tissue;

E. using multi-photon excitation, photoactivating the agent over the range of depths within the tissue, thus producing photo-activated agents at the focal zone, where the PAMA emits energy;

F. detecting the emitted energy; and

G. producing a detected energy signal that is characteristic of tissue at the focal zone;

13. an apparatus for medical diagnostic **imaging** comprising:

A. a light source producing light directed to or into tissue to be **imaged**, the light being selected in frequency and energy to penetrate into or below a surface of the tissue and to promote multi-photon excitation only in a region to be **imaged**;

B. **a** focusing apparatus being able to vary the position of the light within a range of depths in the **region** of tissue to be **imaged**;

C. a detector positioned to receive and detect **radiation** emitted by a PAMA within the material after the agent has been excited using multi-photon excitation;

14. **a** method for characterizing a material including at least one PAMA comprising:

A. encoding light from a light source with a modulation pattern to produce a modulated light;

B. **treating** the material with the modulated light to promote multi-**photon** excitation of the PAMA so that the excited molecular agent becomes photoactivated in the material and emits a modulated energy; and

C. producing a detected modulated energy signal which is characteristic of the material;

15. a method for characterizing a particular volume of tissue, where the tissue includes at least one PAMA, comprising:

A. encoding light from a light source with a modulation pattern to produce a modulated light;

B. directing light to specific regions of interest within the tissue, including regions below a tissue surface, the light being selected to penetrate the tissue and to promote multi-photon excitation only at locations within a focal zone;

C. controlling the locations of the focal zone over a range of depths within a focal zone;

D. using multi-photon excitation, photo-activating the agent over the range of depths within the tissue, so that the excited molecular agent becomes photoactivated only at the focal zone, where the photoactivated agent emits a modulated energy;

E. detecting a portion of the emitted modulated energy; and

F. producing a detected modulated energy signal which is characteristic of the tissue;

16. a method for the diagnostic characterization of tissue, the tissue having a surface and being relatively transparent to light having preselected characteristics comprising:

A. introducing a selected photoactive agent into a tissue, the agent being susceptible to multi-photon excitation;

B. allowing the agent to accumulate at features of interest, if any, within the tissue;

C. operating a laser to obtain a beam of light having the preselected characteristics;

D. directing the laser beam to specific regions of interest within the tissue, including regions below the tissue surface, including penetrating the tissue with the beam and promoting multi-photon excitation of the agent only at locations within a focal zone;

E. moving the locations of the focal zone over a cross sectional area located at a range of depths within the tissue to define an examined volume;

F. using multi-photon excitation, photoactivating any of the agent which has accumulated at any feature of interest within the examined volume through which the focal zone passes, thus producing a photoactivated agent at each feature of interest when the focal zone intersects the feature of interest, where the photoactivated agent emits energy;

G. detecting the emitted energy; and

H. producing a detected energy signal that -is characteristic of tissue at the focal zone.

USE - The methods can be used in diagnostic and **imaging** applications for *in vivo* detection or characterization of disease in plant and animal tissue. In particularly they can be used for *in vivo* **detection** and imaging of disease and other characteristics of tissues, such as cancer in the human breast. They can also be used for laser scanning microscopy.

ADVANTAGE - The methods provide for a reduction of **interference** from absorption and scattering processes

originating from the environment surrounding the excited agent, improved activation depths, improved efficiency, and enhanced control over location and specificity for the excited agent. **The** methods facilitate controlled activation of **diagnostic or** imaging **agents in** deep tissue or in other specimens using near infrared **to** infrared radiation, which is absorbed and scattered to a lesser extent than during the **methods** and radiations currently used.

Title Terms /Index Terms/Additional Words: DIAGNOSE; **IMAGE**; VOLUME; MATERIAL; LIGHT; PROMOTE; MULTI; PHOTON; EXCITATION; PHOTO; ACTIVE; MOLECULAR; AGENT; DETECT; SIGNAL; CHARACTERISTIC

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-010/00; A61B-006/00			Main		"Version 7"
G01N-021/64			Secondary		"Version 7

File Segment: CPI; EngPI; EPI
DWPI Class: B04; D16; S05; P31
Manual Codes (EPI/S-X): S05-D02
Manual Codes (CPI/A-N): B04-C02; B04-E03; B04-G01; B04-J01; B04-K01; B04-L01; B04-N02; B11-C07B; B12-K04A; D05-H09
18/5/6 (Item 6 from file: 350)
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0010220378 *Drawing available*
WPI Acc no: 2000-531453/200048
XRAM Acc no: C2000-158383
XRPX Acc No: N2000-392905
Imaging of objects in turbid media, especially tumors in tissues, based on preservation of polarized luminescence emitted from contrast agents
Patent Assignee: ALFANO R R (ALFA-I); DEMOS S G (DEMO-I); WANG W (WANG-I)
Inventor: ALFANO R R; DEMOS S G; WANG W

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 6091983	A	20000718	US 199630054	P	19961106	200048	B
			US 1997797027	A	19970207		

Priority Applications (no., kind, date): US 199630054 P 19961106; US 1997797027 A 19970207

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 6091983	A	EN	33	22	Related to Provisional	US 199630054

Alerting Abstract US A

NOVELTY - The object is rendered luminescent by adding a contrast agent that emits polarized light when appropriately excited. The luminescent object is excited with **radiation** causing luminescent light to be emitted, the light initially being polarized. The exiting light consists of ballistic, snake-like, and diffuse components. A pair of complementary polarizing components of the light are detected and used to form an **image** of the object.

DESCRIPTION - The exciting **radiation** is photoexciting polarized light with a wavelength that exhibits minimum absorption in **tissues**, especially in the range 700 -1600 nm. It is produced by a laser which may be a semiconductor, Ti:Sapphire, Forsterite, Cr:YAG or Nd:YAG laser. The laser light may be pulsed. In an example where the photoexciting polarized light is linearly polarized, the pair of complementary polarization components are parallel and perpendicular to the photoexciting polarized light. The **image** may be formed by calculating either a ratio or difference of the complementary polarization components. The contrast agent may be a dye, phosphor, dielectric, ceramic, semiconductor or impurity-doped material. Favored agents include Eosin, Rose Begal, Cardio Green, photofrin, HPD, porphyrin, derivative dyes and TCTIF. The agent preferentially binds to molecules associated with cancers, disorders or diseases of the human body. The detection step is effected by passing the light that emerges from the turbid medium through an analyzer and a filter and then measuring its intensity.

USE - For **imaging** objects located in turbid media, especially **tumors** embedded in **tissue**. The **tissue** may be breast, brain, prostate, liver, skin, gastrointestinal, mucosa, GYN, under-arm glandular, or kidney **tissue**.

ADVANTAGE - The method can detect very small objects, e.g. **tumors** less than 1 mm in size, deeply embedded in **tissues**. It provides high resolution, **subsurface imaging**.

DESCRIPTION OF DRAWINGS - The figure shows a schematic view of one embodiment of the system for **imaging** an object in a turbid medium.

Title Terms /Index Terms/Additional Words: **IMAGE**; OBJECT; TURBID; MEDIUM; **TISSUE**; BASED; PRESERVE; LUMINESCENT; EMIT; CONTRAST; AGENT

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-005/00			Main		"Version 7"

US Classification, Issued: 600431000, 600475000, 600477000, 250341300, 356364000, 356433000

File Segment: CPI; EngPI
DWPI Class: B04; P31
Manual Codes (CPI/A-N): B04-B04H; B04-C03D; B06-A03; B06-D13; B06-D18; B11-C08; B12-K04A1

18/5/7 (Item 7 from file: 350)
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0009728709 *Drawing available*
WPI Acc no: 2000-013712/200001
XRPX Acc No: N2000-010586

Optical fiber based subsurface imaging apparatus for imaging body tissue samples for medical screening and diagnosis

Patent Assignee: UNIV TEXAS SYSTEM (TEXA)
Inventor: RICHARDS-KORTUM R; UTZINGER U; ZULUAGA A

Patent Family (2 patents, 84 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1999057507	A1	19991111	WO 1999US9626	A	19990430	200001	B
AU 199937817	A	19991123	AU 199937817	A	19990430	200016	E

Priority Applications (no., kind, date): US 199883785 P 19980501

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1999057507	A1	EN	132	60		
National Designated States,Original	AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
Regional Designated States,Original	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
AU 199937817	A	EN			Based on OPI patent	WO 1999057507

Alerting Abstract WO A1

NOVELTY - An optical fiber receives **radiation** from **radiation** source and directs **radiation** towards sample. A piezoelectric bender coupled to a scanning side facing probe (24), scans the **radiation** relative to the sample. The optical element of probe directs **radiation** from fiber toward sample in a direction that is non-parallel with the fiber.
DESCRIPTION - An interferometer is in optical communication with the **radiation** source, the scanning probe comprising a GRIN lens, sterilizable cover for covering a portion of scanning probe, is connected to interferometer and sample. An INDEPENDENT CLAIM is also included for **subsurface imaging** method of samples.
USE - For analyzing body **tissue** samples for diagnosing cervical cancer, ovarian cancer, ovarian neoplasias, colposcopic or oropharyngeal examination in medical screening and diagnosis.
ADVANTAGE - Since the system is constructed using fiber optical components used in telecommunication, they are relatively inexpensive and portable. The usage of fiber optic, allows high resolution **images** of internal organ microstructure by incorporating it into endoscopes, catheters.
DESCRIPTION OF DRAWINGS - The figure shows schematic diagram of fiber optic based OCT.
24 scanning probe

Title Terms /Index Terms/Additional Words: OPTICAL; BASED; **SUBSURFACE**; **IMAGE**; APPARATUS; BODY; **TISSUE**; SAMPLE; MEDICAL; SCREEN; DIAGNOSE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G01B-009/02			Main		"Version 7"

File Segment: EPI;
DWPI Class: S02; S03; S05
Manual Codes (EPI/S-X): S02-A03A; S03-E04; S05-D02X

18/5/8 (Item 8 from file: 350)
Derwent WPIX
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0009379407 *Drawing available*
WPI Acc no: 1999-314279/199927
XRAM Acc no: C1999-093042
XRPX Acc No: N1999-234763
Photoacoustic sensor for depth-resolved analysis of e.g. biological and laminated plastic layers
Patent Assignee: KOPP C (KOPP-I); NIESSNER R (NIES-I)
Inventor: KOPP C; NIESSNER R

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
DE 19755866	C1	19990512	DE 19755866	A	19971216	199927	B

Priority Applications (no., kind, date): DE 19755866 A 19971216

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
DE 19755866	C1	DE	14	9	

Alerting Abstract DE C1
NOVELTY - Photoacoustic sensor for depth-resolved analysis is new.
DESCRIPTION - Electromagnetic **radiation** is completely transmitted into the sample (2) under examination, through a body (1) contacting it. On the opposite side of the body, piezoelectric polyvinyl difluoride (PVDF) sheet (3) is embedded in an acoustically-homogenous epoxy unit. This includes both conductive- (7) and insulating- (9) epoxy. The body transmits acoustic waves to the PVDF. These are produced at differing depths in the sample, by electromagnetic **radiation**. The photoacoustic signal produced, is resolved over time, enabling contributions from each level to be identified.
An INDEPENDENT CLAIM is included for use of the sensor.
USE - The technique monitors the thickness of biological films in bioreactors, investigates mechanical bonding of thin layers, locates **sub-surface** inhomogeneities and assists medical investigations of cutaneous and subcutaneous

tissues (claimed). The sensor is also used to investigate biological films and hidden layers.
ADVANTAGE - Use of PVDF improves time resolution by an order of magnitude over conventional piezoelectric ceramics or crystals. The epoxy embedding and coupling, damps ringing or after-oscillation of the microphonic element. The possibility of considerably improved measurement and **imaging** using such a sensor suggests itself, possibly improving diverse scanning and sonar technologies.
DESCRIPTION OF DRAWINGS - A cross section reveals components of the sensor head. Various implementations and measuring set-ups are also illustrated in the disclosure.
1 contact body
2 sample under examination
3 piezoelectric PVDF sheet
7 conductive epoxy
9 insulating epoxy
10 metal casing
13 optical conductor

Title Terms /Index Terms/Additional Words: SENSE; DEPTH; RESOLUTION; ANALYSE; BIOLOGICAL; LAMINATE; PLASTIC; LAYER

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G01N-029/22			Main		"Version 7"
A61B-008/00; G01N-029/18			Secondary		"Version 7

File Segment: CPI; EngPI; EPI
DWPI Class: A14; A21; A32; A85; B04; D16; J04; S02; S03; P31
Manual Codes (EPI/S-X): S02-A05B2; S03-E08X; S03-E14H9
Manual Codes (CPI/A-N): A04-E10B; A05-A01E2; A09-C; A12-E13; A12-E15; B04-C03B; B11-C08B; D05-H09; J04-B01

18/5/9 (Item 9 from file: 350)
Derwent WPIX
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0008754807
WPI Acc no: 1998-297469/199826
Related WPI Acc No: 1998-297470; 2000-116426; 2000-195427; 2000-205542; 2000-376044; 2000-442746; 2001-234893; 2001-589396; 2001-625854; 2002-041272; 2002-227001; 2003-787499; 2005-131084; 2005-531387; 2006-055240; 2006-330516; 2006-330520; 2007-219614
XRAM Acc no: C1998-092666
XRPX Acc No: N1998-232764
Improved methods and apparatus for imaging plant or animal tissues - using simultaneous two-photon

excitation of photoactive molecular agents present in tissue and detection of energy emitted from agents
Patent Assignee: PHOTOGEN INC (PHOT-N)
Inventor: DEES H C; FISHER W G; WACHTER E A

Patent Family (13 patents, 77 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1998018398	A1	19980507	WO 1997US19249	A	19971027	199826	B
AU 199854254	A	19980522	AU 199854254	A	19971027	199840	E
US 5832931	A	19981110	US 1996741370	A	19961030	199901	E
NO 199901493	A	19990527	WO 1997US19249	A	19971027	199931	E
			NO 19991493	A	19990326		
CN 1226147	A	19990818	CN 1997196813	A	19971027	199951	E
NZ 334191	A	20000128	NZ 334191	A	19971027	200015	E
			WO 1997US19249	A	19971027		
AU 716504	B	20000224	AU 199854254	A	19971027	200020	E
BR 199713979	A	20000502	BR 199713979	A	19971027	200033	E
			WO 1997US19249	A	19971027		
EP 1032321	A1	20000906	EP 1997948121	A	19971027	200044	E
			WO 1997US19249	A	19971027		
KR 2000035894	A	20000626	WO 1997US19249	A	19971027	200111	E
			KR 1999701606	A	19990226		
JP 2001503748	W	20010321	WO 1997US19249	A	19971027	200122	E
			JP 1998520604	A	19971027		
MX 199904045	A1	20000501	MX 19994045	A	19990430	200129	E
IL 128356	A	20011125	IL 128356	A	19971027	200215	E

Priority Applications (no., kind, date): US 1996741370 A 19961030; WO 1997US19249 A 19971027

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1998018398	A1	EN	70	13		
National Designated States,Original	AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
Regional Designated States,Original	AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 199854254	A	EN			Based on OPI patent	WO 1998018398
NO 199901493	A	NO			PCT Application	WO 1997US19249
NZ 334191	A	EN			PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
AU 716504	B	EN			Previously issued patent	AU 9854254
					Based on OPI patent	WO 1998018398
BR 199713979	A	PT			PCT Application	WO 1997US19249

					Based on OPI patent	WO 1998018398
EP 1032321	A1	EN			PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
KR 2000035894	A	KO			PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
JP 2001503748	W	JA	80		PCT Application	WO 1997US19249
					Based on OPI patent	WO 1998018398
IL 128356	A	EN			Based on OPI patent	WO 1998018398

Alerting Abstract WO A1

The following are claimed: e.g. (A) **imaging** a volume of material, which contains at least one photoactive molecular agent (PMA), comprising: (a) treating the material with light, to promote a simultaneous two-photon excitation (TPE) of the PMA; (b) photoactivating one or more PMAs in the materials, to produce at least one photoactivated molecular agent which emits energy; (c) detecting the energy emitted; and (d) producing a detected energy signal which is characteristic of the volume of material. (B) **imaging** apparatus, for **imaging** a volume of plant or animal tissue which contains at least one PMA, comprising: (a) a source of collimated light, where the light has a frequency which is able to penetrate the tissue and can promote simultaneous TPE of the PMA in the tissue; (b) focusing apparatus (for focusing the collimated light throughout a range of focal lengths extending from the surface of the tissue to a depth beyond the surface) which cooperates with the light source to promote TPE of the PMA; and (c) a detector located proximate to the tissue and positioned to detect the light emitted by the PMA which travels along a path that does not retrace an optical path of the light incident on the tissue.

USE - The processes may be used for activation of various endogenous and exogenous **imaging** agents, e.g., for diagnosis of diseases in humans and animals.

ADVANTAGE - The processes use non-linear, simultaneous two-photon optical excitation to remotely photoactivate one or more PMAs with a high degree of spatial control and improved depth of penetration. The processes achieve reduced collateral excitation and damage along the excitation path, reduced exposure to harmful optical wavelengths, and reduced interference from absorption and scattering processes originating from the environment surrounding the excited agent.

Title Terms /Index Terms/Additional Words: IMPROVE; METHOD; APPARATUS; **IMAGE**; PLANT; ANIMAL; TISSUE; SIMULTANEOUS; TWO; PHOTON; EXCITATION; PHOTOACTIVE; MOLECULAR; AGENT; PRESENT; DETECT; ENERGY; EMIT

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-019/00; A61K-049/00			Main		"Version 7"
G01N-021/64			Secondary		"Version 7
A61B-0017/00	A	N		R	20060101
A61K-0041/00	A	I		R	20060101
A61K-0049/00	A	I		R	20060101

G01N-0021/64	A	I	F	R	20060101
A61B-0017/00	C	N		R	20060101
A61K-0041/00	C	I		R	20060101
A61K-0049/00	C	I		R	20060101
G01N-0021/64	C	I	F	R	20060101

US Classification, Issued: 600300000, 600476000, 128898000

File Segment: CPI; EngPI
DWPI Class: B04; C07; D16; P31
Manual Codes (CPI/A-N): B04-F02; B04-F08; B11-C07B2; B12-K04; C04-F02; C04-F08; C11-C07B2; C12-K04; D05-H09

18/5/10 (Item 10 from file: 350)
Derwent WPIX
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0008632290 *Drawing available*
WPI Acc no: 1998-169296/199815
XRPX Acc No: N1998-134346
Examining biological tissue with non-ionising radiation esp. for measuring blood flow in deep tissue layers - only considering intensity values of spectrum with greater or lower frequency than threshold serving as measurement for average photon penetration depth
Patent Assignee: SIEMENS AG (SIEI)
Inventor: MITIC G; SOELKNER G

Patent Family (2 patents, 19 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1998008076	A1	19980226	WO 1997DE1662	A	19970806	199815	B
DE 19634152	A1	19980305	DE 19634152	A	19960823	199815	E

Priority Applications (no., kind, date): DE 19634152 A 19960823

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
WO 1998008076	A1	DE	22	5	
National Designated States,Original	JP US				
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE				
DE 19634152	A1	DE	8		

Alerting Abstract WO A1
The method involves irradiating a first region of the tissue surface or the surface of a body containing the tissue, with

non- ionising, coherent electromagnetic **radiation**. The stray **radiation** emitted from a second region of the tissue or body surface is examined. The power spectrum of the stray **radiation** is then determined.
Only those intensity values of the power spectrum whose frequency is greater than or less than a threshold frequency are taken into consideration when determining the characteristics of the tissue. The threshold value serves as a measurement for the average penetration depth of the photons.
USE - For e.g. safe diagnosis of breast cancers etc. without causing damage to tissue.
ADVANTAGE - Provides accurate results even for **deep tissue**.

Title Terms /Index Terms/Additional Words: BIOLOGICAL; TISSUE; NON; IONISE; **RADIATE**; MEASURE; BLOOD; FLOW; DEEP; LAYER; INTENSITY; VALUE; SPECTRUM; GREATER; LOWER; FREQUENCY; THRESHOLD; SERVE; AVERAGE; PHOTON; PENETRATE; DEPTH

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61B-006/03; G01N-021/47			Main		"Version 7"
A61B-005/14			Secondary		"Version 7

File Segment: EngPI; EPI;
DWPI Class: S02; S03; S05; P31
Manual Codes (EPI/S-X): S02-G02X; S03-E04C3; S05-D01B1B; S05-D01J; S05-D02X

18/5/11 (Item 11 from file: 350)
Derwent WPIX
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0005272923 *Drawing available*
WPI Acc no: 1990-268183/199035
XRPX Acc No: N1990-207534
Deep arterial and coronary lesion imager - uses time delay spectrometry for imaging variations, filters, amplifies and mixes return signal
Patent Assignee: NAT AERO & SPACE ADMIN (USAS)
Inventor: HEYSER R C; LECROISSET D H; ROONEY J A

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US N7444248	N	19900717	US 1989163916	A	19891201	199035	B
			US 1989444248	A	19891201		

Priority Applications (no., kind, date): US 1989163916 A 19891201

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US N7444248	N	EN		1	

Alerting Abstract US N

The reflection-mode ultrasonic system uses time-delay spectrometry (TDS) for **imaging** of variations in a property of **deep** arterial and coronary **tissue** within a volume at a range from a transmitting transducer. A receiving transducer mounted concentric with the transmitting transducer provides a return signal that is demodulated by the sweep of the TDS using a balanced mixer to present a complex signal representative of a property within a volume of tissue.

The complex signal is amplified and filtered before mixing with a frequency signal from a local generator to establish a zero range reference for A-scan display of the erturn signal, but before display the offset return signal is transformed by a fast Fourier transform processor from the frequency domain to a time domain to present the return signal for display as a time-based range signal. A B-scan display may be provided by additionally scanning the transducers in a linear path across the tissue.

USE/ADVANTAGE - For medical use, and pollution detection. Non-invasive, doesn't use ionising **radiation**.

@(25pp Dwg.No.4a/6)@

Title Terms /Index Terms/Additional Words: DEEP; ARTERY; CORONARY; LESION; **IMAGE** ; TIME; DELAY; SPECTROSCOPE; VARIATION; FILTER; AMPLIFY; MIX; RETURN; SIGNAL

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G01R-000/01			Secondary		"Version 7

File Segment: EPI;
DWPI Class: S03; S05
Manual Codes (EPI/S-X): S03-E08A; S05-D03

; show files

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[File 347] **JAPIO** Dec 1976-2007/Mar(Updated 070809)
(c) 2007 JPO & JAPIO. All rights reserved.

[File 350] **Derwent WPIX** 1963-2007/UD=200757
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[File 371] **French Patents** 1961-2002/BOPI 200209
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**File 371: This file is not currently updating. The last update is 200209.*

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NEW FILES:

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[File 441] **ESPICOM Pharm&Med DEVICE NEWS** 2007/Feb W2
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? d s
Set     Items   Description
S1    4173613   S IMAG???
S2      18751   S (DEEP OR SUB()(DERMAL OR SURFACE) OR SUBSURFACE OR
SUBDERMAL)(5N)(TISSUE? OR TUMOR? OR NEOPLASM?)
S3       3149   S S1 AND S2
S4     565442   S SPECTR? AND RADIAT?
S5    2104450   S STOR???
S6          0   S S3 AND S4 AND S5
S7         45   S S3 AND S4
S8         28   RD  (unique items)
S9          8   S S8/2005-2007
S10        20   S S8 NOT S9
```

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? t s10/3,k/all
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10/3,K/1 (Item 1 from file: 2)
Fulltext available through: SPIE - The International Society of Optical Engineering USPTO Full Text Retrieval Options
INSPEC
(c) 2007 Institution of Electrical Engineers. All rights reserved.
09059467 **INSPEC Abstract Number:** B2004-09-7510-056, C2004-09-7330-494
Title: Linear and nonlinear reconstruction for diffuse optical tomography in an inhomogeneous background
Author Boverman, G.; Miller, E.L.; Boas, D.A.
Author Affiliation: Northeastern Univ., Boston, MA, USA
Journal: Proceedings of the SPIE - The International Society for Optical Engineering **Conference Title:** Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.5299, no.1 p. 10-21
Publisher: SPIE-Int. Soc. Opt. Eng ,
Publication Date: 2004 **Country of Publication:** USA
CODEN: PSISDG **ISSN:** 0277-786X
SICI: 0277-786X(2004)5299:1L.10:LNRD;1-X
Material Identity Number: C574-2004-157
U.S. Copyright Clearance Center Code: 0277-786X/04/$15.00
Conference Title: Computational imaging II
Conference Date: 19-20 Jan. 2004 **Conference Location:** San Jose, CA, USA

Item Identifier (DOI): 10.1117/12.522927
Language: English
Subfile: B C
Copyright 2004, IEE
Abstract: Diffuse optical tomography is a novel approach to **imaging** the body's optical properties non-invasively using non-ionizing electromagnetic **radiation** in the visible and near-infrared range. As **spectral** information at a number of measurement wavelengths can give important information about functional properties of **tissue** relatively **deep** within the body, it is hoped that optical tomography will be clinically useful, particularly for...
Descriptors: **image** reconstruction... ...medical **image** processing...
Identifiers: ...nonionizing electromagnetic **radiation**; ... ...**spectral** information... ...**image** reconstruction

10/3,K/2 (Item 2 from file: 2)
Fulltext available through: ScienceDirect
INSPEC
(c) 2007 Institution of Electrical Engineers. All rights reserved.
07093247 **INSPEC Abstract Number:** A9901-8780-018
Title: Two-photon deep tissue ex vivo imaging of mouse dermal and subcutaneous structures
Author So, P.T.C.; Hyun Kim; Kochevar, I.E.
Author Affiliation: Dept. of Mech. Eng., MIT, Cambridge, MA, USA
URL: http://epubs.osa.org/oearchive/source/6200.htm
Journal: Optics Express vol.3, no.9
Publication URL: http://epubs.osa.org/opticsexpress
Publisher: Opt. Soc. America ,
Publication Date: 26 Oct. 1998 **Country of Publication:** USA
CODEN: OPEXFF **ISSN:** 1094-4087
Material Identity Number: G337-98023
U.S. Copyright Clearance Center Code: 1094-4087/98/$15.00
Language: English
Subfile: A
Copyright 1998, IEE
Title: Two-photon deep tissue ex vivo imaging of mouse dermal and subcutaneous structures
Abstract: The non-invasive determination of deep tissue three dimensional structure and biochemistry is the ultimate goal of optical biopsy. Two-photon microscopy has been shown to be a particularly promising approach. The use of infrared radiation in two-photon microscopy is critical for deep tissue imaging since tissue absorption and scattering coefficients for infrared light are much lower than for shorter wavelengths. Equally... ...by means of high resolution two-photon microscopy, skin and subcutaneous tissue structures can be imaged utilizing their endogenous fluorescence. From a freshly prepared tissue punch of a mouse ear, we...
Descriptors: ...two-photon spectroscopy
Identifiers: ...deep tissue three dimensional structure... ...infrared radiation; ... ...two-photon deep tissue ex vivo imaging;

10/3,K/3 (Item 3 from file: 2)
Fulltext available through: USPTO Full Text Retrieval Options
INSPEC

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05227716 **INSPEC Abstract Number:** A9219-8760J-049
Title: Accelerator-based epithermal neutron beam design for neutron capture therapy
Author Yanch, J.C.; Zhou, X.-L.; Shefer, R.E.; Klinkowstein, R.E.
Author Affiliation: Dept. of Nucl. Eng., MIT, Cambridge, MA, USA
Journal: Medical Physics vol.19, no.3 p. 709-21

Publication Date: May-June 1992 **Country of Publication:** USA
CODEN: MPHYA6 **ISSN:** 0094-2405
U.S. Copyright Clearance Center Code: 0094-2405/92/30709-13$01.20
Language: English
Subfile: A
Abstract: ...proton accelerator. Energetic protons (2.5 MeV) on a /sup 7/Li target produce a **spectrum** of neutrons with maximum energy of roughly 800 keV. A number of combinations of D... ...Laboratory (SRL) in Somerville MA, can provide the required proton beam parameters for BNCT of **deep**-seated **tumors**. An optimized configuration of materials required to shift the accelerator neutron **spectrum** down to therapeutically useful energies has been designed using Monte Carlo simulation in the Whitaker College Biomedical **Imaging** and Computation Laboratory at MIT. Actual construction of the moderator/reflector assembly is currently underway.
Descriptors: radiation therapy
Identifiers: ...**deep**-seated **tumors**;

10/3,K/4 (Item 1 from file: 5)
Fulltext available through: Proceedings of the National Academy of Sciences (PNAS) custom link USPTO Full Text Retrieval Options
Biosis Previews(R)
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12612738 **Biosis No.:** 199598080571
Oxymetry deep in tissues with low-frequency electron paramagnetic resonance

Author: Halpern Howard J (Reprint); Yu Cheng; Peric Miroslav; Barth Eugene (Reprint); Grdina David J; Teicher Beverly A
Author Address: Michael Reese/Univ. Chicago Center Radiation Therapy, Dep. Radiation Cellular Oncol., University Chicago, Chicago, IL 60637, USA**USA
Journal: Proceedings of the National Academy of Sciences of the United States of America 91 (26): p 13047-13051 1994 1994
ISSN: 0027-8424
Document Type: Article
Record Type: Abstract
Language: English
Oxymetry deep in tissues with low-frequency electron paramagnetic resonance

Abstract: ...of murine FSa and NFSa fibrosarcomas using a new method for quantitative oxygen concentration determination deep in the tissues of a living animal. The measurement uses unusually low-frequency electron paramagnetic spectroscopy sensitive to substrate 7 cm deep in tissue, partially deuterated spin probes (spin labels of molecular mass 195, approximating that of glucose) whose... ...size increases and also shows a trend to decrease as radiobiologic hypoxia increases. An oxymetric spectral image of the tumor is presented. The technique will improve with larger human tissue samples. It... ...myocardial infarction. It will

allow direct assessment of tumor hypoxia to determine the usefulness of radiation and chemotherapy adjuvants directed to hypoxic cell compartments.

10/3,K/5 (Item 1 from file: 8)
Fulltext available through: USPTO Full Text Retrieval Options
Ei Compendex(R)
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10058648

E.I. No: EIP04418401928
Title: A biophysically-based spectral model of light interaction with human skin

Author: Krishnaswamy, Aravind; Baranoski, Gladimir V.G.
Corporate Source: Natural Phenomena Simulation Group School of Computer Science University of Waterloo, Waterloo, Ont., Canada
Source: Computer Graphics Forum v 23 n 3 SPEC. ISS. 2004. p 331-340
Publication Year: 2004
CODEN: CGFODY **ISSN:** 0167-7055
Language: English
Title: A biophysically-based spectral model of light interaction with human skin
Abstract: ...rendering, there is still a long way to go before we can automatically generate predictable images of biological materials. In this paper, we address an open problem in this area, namely the spectral simulation of light interaction with human skin. We propose a novel biophysically-based model that accounts for all components of light propagation in skin tissues, namely surface reflectance, subsurface reflectance and transmittance, and the biological mechanisms of light absorption by pigments in these tissues... ...and its formulation, based on standard Monte Carlo techniques, enables its straightforward incorporation into realistic image synthesis frameworks. Besides its biophysically-based nature, the key difference between the proposed model and the existing skin models is its comprehensiveness, i.e., it computes both spectral (reflectance and transmittance) and scattering (bidirectional surface-scattering distribution function) quantities for skin specimens. In... ...comparing results from the model with actual skin measured data. We also present computer generated images to illustrate the flexibility of the proposed model with respect to variations in the biological input data, and its applicability not only in the predictive image synthesis of different skin tones, but also in the spectral simulation of medical conditions. 37 Refs.
Descriptors: *Computer graphics; Skin; Image analysis; Solar radiation; Animation; Tissue; Computer simulation
Identifiers: Image synthesis; Predictive simulation; Light interaction; Electronic imaging

10/3,K/6 (Item 2 from file: 8)
Fulltext available through: Optical Society of America USPTO Full Text Retrieval Options
Ei Compendex(R)
(c) 2007 Elsevier Eng. Info. Inc. All rights reserved.
09827410 **E.I. No:** EIP04188142297
Title: Noninvasive photoacoustic angiography of animal brains in vivo with near-infrared light and an optical contrast agent

Author: Wang, Xueding; Ku, Geng; Wegiel, Malgorzata A.; Bornhop, Darryl J.; Stoica, George; Wang, Lihong V.
Corporate Source: Optical Imaging Laboratory Department of Biomedical Engineering Texas A and M University, College Station, TX 77843-3120, United States
Source: Optics Letters v 29 n 7 Apr 1 2004. p 730-732
Publication Year: 2004
CODEN: OPLEDP **ISSN:** 0146-9592
Language: English
Abstract: Optical contrast agents have been widely applied to enhance the sensitivity and specificity of optical **imaging** with near-infrared (NIR) light. However, because of the overwhelming scattering of light in biological tissues, the spatial resolution of traditional optical **imaging** degrades drastically as the **imaging** depth increases. Here, for the first time to our knowledge, we present noninvasive photoacoustic angiography... ...a rat, it obviously enhances the absorption contrast between the blood vessels and the background **tissues**. Because NIR light can penetrate **deep** into the brain **tissues** through the skin and skull, we are able to successfully reconstruct the vascular distribution in... ...a much-reduced background. This new technology demonstrates the potential for dynamic and molecular biomedical **imaging**. copy 2004 Optical Society of America. 12 Refs.
Descriptors: *Photoacoustic **spectroscopy**; Biomedical engineering; Infrared **radiation**; Light scattering; Tissue; Polyethylene glycols; Light absorption; Molecular biology

10/3,K/7 (Item 3 from file: 8)
Fulltext available through: ScienceDirect
Ei Compendex(R)
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08395493 **E.I. No:** E2099104850785
Title: Two-photon tomography

Author: Liu, Feng
Corporate Source: City Coll of CUNY, New York, NY, USA
Conference Title: Proceedings of the 1999 Quantum Electronics and Laser Science Conference (QELS '99)
Conference Location: Baltimore, MD, USA **Conference Date:** 19990523-19990528
E.I. Conference No.: 55739
Source: IQEC, International Quantum Electronics Conference Proceedings 1999. p 261
Publication Year: 1999
CODEN: IQECES
Language: English
Abstract: Two-photon fluorescence and second harmonic generation are used to **image subsurface** structures of highly scattering biological **tissues**. Ultrashort laser pulses at near-infrared **spectra** region are reflected by a dichroic beam splitter and then focused into tissue samples by...
Descriptors: *Tomography; Photons; Fluorescence; Second harmonic generation; Laser pulses; Infrared **radiation**; Light reflection; Optical beam splitters ; Optical instrument lenses; Medical **imaging**

10/3,K/8 (Item 1 from file: 34)
Fulltext available through: Nature American, Inc. (Publisher Group) USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci
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12023301 **Genuine Article#:** 720KM **No. References:** 48
MRI: volumetric imaging for vital imaging and atlas construction

Author: Jacobs RE; Papan C; Ruffins S; Tyszka JM; Fraser SE (REPRINT)
Corporate Source: CALTECH,Beckman Inst, Biol Imaging Ctr,1200 E Calif Blvd/Pasadena//CA/91125 (REPRINT); CALTECH,Beckman Inst, Biol Imaging Ctr,Pasadena//CA/91125; CALTECH,Div Biol,Pasadena//CA/91125
Journal: NATURE CELL BIOLOGY , 2003 , S (SEP) , P SS10-SS16
ISSN: 1465-7392 **Publication date:** 20030900
Publisher: NATURE PUBLISHING GROUP , MACMILLAN BUILDING, 4 CRINAN ST, LONDON N1 9XW, ENGLAND
Language: English **Document Type:** REVIEW (ABSTRACT AVAILABLE)
MRI: volumetric imaging for vital imaging and atlas construction
Abstract: Magnetic resonance imaging (MRI) is well known for its ability to capture non-invasively the three-dimensional structure... ...The physics underlying this technique means that it can be refined to collect high-resolution images in settings that would scatter the radiation used in direct-imaging techniques. This makes microscopic MRI a powerful tool to observe events and structures deep inside otherwise opaque soft tissues.
Identifiers-- ...MAGNETIC-RESONANCE; HUMAN BRAIN; DIFFUSION TENSOR; GENE-EXPRESSION; WATER; SPECTROSCOPY; MICROSCOPY; MICROPET; AGENTS; ECHO

10/3,K/9 (Item 2 from file: 34)
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SciSearch(R) Cited Ref Sci
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08593804 **Genuine Article#:** 305AY **No. References:** 23
In vivo optical coherence tomography imaging of human skin: norm and pathology

Author: Gladkova ND (REPRINT) ; Petrova GA; Nikulin NK; RadenskaLopovok SG; Snopova LB; Chumakov YP; Nasonova VA; Gelikonov VM; Gelikonov GV; Kuranov RV; Sergeev AM; Feldchtein FI
Corporate Source: MININ ST 19A,APT 11/NIZHNII NOVGOROD 6013155//RUSSIA/ (REPRINT); NIZHNY NOVGOROD MED ACAD,/NIZHNII NOVGOROD//RUSSIA/; NIZHNY NOVGOROD RES DERMATOVENEROL INST,/NIZHNII NOVGOROD//RUSSIA/; RUSSIAN ACAD MED SCI,INST RHEUMATOL/MOSCOW 109801//RUSSIA/; RUSSIAN ACAD SCI,INST APPL PHYS/NIZHNII NOVGOROD 603600//RUSSIA/
Journal: SKIN RESEARCH AND TECHNOLOGY , 2000 , V 6 , N1 (FEB) , P 6-16
ISSN: 0909-752X **Publication date:** 20000200
Publisher: MUNKSGAARD INT PUBL LTD , 35 NORRE SOGADE, PO BOX 2148, DK-1016 COPENHAGEN, DENMARK
Language: English **Document Type:** ARTICLE (ABSTRACT AVAILABLE)
In vivo optical coherence tomography imaging of human skin: norm and pathology
Abstract: ...certain pathological processes in skin, by performing parallel histological and tomographical studies.

Methods: To obtain images of the skin, we used a compact fiber OCT system developed at the Institute of... ...to the ANSI safety standards for light exposure. The in-depth resolution limited by the spectral bandwidth (40-50 nm) of the probing light was similar to 20 mu m. The... ...from 15 to 30 mu m. In this series of experiments the maximum depth of imaging did not extend beyond 1.5 mm. Obtaining images of skin

regions 2-6 mm long took 2-4 s. OCT capabilities for imaging normal skin of different localization and some skin diseases were studied in 12 healthy volunteers and 24 patients.

Results: OCT imaging of the skin can detect in vivo such general pathological reactions of the human body... ...some specific processes in the skin, including hyperkeratosis, parakeratosis and formation of intradermal cavities. OCT imaging is noninvasive and therefore allows frequent multifocal examination of skin without any adverse effects. OCT... ...skin pathology within the human body can be easily performed by OCT.

Conclusions: OCT allows imaging of subsurface soft tissues with the spatial resolution of 15-20 mu m, a resolution one order of magnitude higher than that provided by other clinically available noninvasive diagnostic techniques. An imaging depth of up to 1.5-2 mm, given by current OCT technology, is sufficient to examine the skin. Real time OCT imaging can provide information not only on the structure, but also on some specific features in the functional state, of tissues. OCT imaging is a noninvasive technique, i.e., OCT does not cause trauma and has no side effects since it utilizes radiation in the near infrared wavelength range at a power as low as 1 mW.

10/3,K/10 (Item 3 from file: 34)
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06242846 **Genuine Article#:** YE155 **No. References:** 11
Forward-imaging instruments for optical coherence tomography

Author: Boppart SA (REPRINT) ; Bouma BE; Pitris C; Tearney GJ; Fujimoto JG; Brezinski ME

Corporate Source: MIT,DEPT ELECT ENGN & COMP SCI/CAMBRIDGE//MA/02139 (REPRINT); MIT,ELECT RES LAB/CAMBRIDGE//MA/02139; MASSACHUSETTS GEN HOSP,/BOSTON//MA/02114; HARVARD UNIV,SCH MED/BOSTON//MA/02114
Journal: OPTICS LETTERS , 1997 , V 22 , N21 (NOV 1) , P 1618-1620
ISSN: 0146-9592 **Publication date:** 19971101
Publisher: OPTICAL SOC AMER , 2010 MASSACHUSETTS AVE NW, WASHINGTON, DC 20036
Language: English **Document Type:** ARTICLE (ABSTRACT AVAILABLE)
Forward-imaging instruments for optical coherence tomography
Abstract: We discuss the design and implementation of forward-imaging instruments for optical coherence tomography (OCT), which require the delivery, scanning, and collection of single-spatial-mode optical radiation. A hand-held surgical probe for use in open surgery can provide cross-sectional images of subsurface tissue before surgical incisions are made. A rigid laparoscope for minimally invasive surgical OCT imaging provides a simultaneous en face view of the area being imaged. OCT imaging is demonstrated on in vitro human specimens. (C) 1997 Optical Society of America.
Research Fronts: 95-1283 002 (NEAR-INFRARED SPECTROSCOPY; OPTICAL COHERENCE TOMOGRAPHY; FETAL CEREBRAL OXYGENATION)

10/3,K/11 (Item 4 from file: 34)
Fulltext available through: custom link USPTO Full Text Retrieval Options

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03501336 **Genuine Article#:** PH986 **No. References:** 30
BOUNDARY-CONDITIONS FOR THE DIFFUSION EQUATION IN RADIATIVE-TRANSFER

Author: HASKELL RC; SVAASAND LO; TSAY TT; FENG TC; MCADAMS MS
Corporate Source: HARVEY MUDD COLL/CLAREMONT//CA/91711; UNIV TRONDHEIM/N-7000 TRONDHEIM//NORWAY/; UNIV CALIF IRVINE,BECKMAN LASER INST & MED CLIN/IRVINE//CA/92715
Journal: JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION , 1994 , V 11 , N10 (OCT) , P 2727-2741
ISSN: 0740-3232
Language: ENGLISH **Document Type:** ARTICLE (Abstract Available)
BOUNDARY-CONDITIONS FOR THE DIFFUSION EQUATION IN RADIATIVE-TRANSFER
Abstract: Using the method of images, we examine the three boundary conditions commonly applied to the surface of a semi-infinite turbid medium. We find that the image-charge configurations of the partial-current and extrapolated-boundary conditions have the same dipole and... ...for optical parameters from FDPM data. FDPM data were taken both at the surface and deep inside tissue phantoms, and the difference in data between the two geometries is striking. If one analyzes...
Research Fronts: 92-2870 003 (NEAR-INFRARED SPECTROSCOPY; CEREBRAL BLOOD-VOLUME; TISSUE OPTICAL COEFFICIENTS; INVIVO SKIN; TIME-RESOLVED DIFFUSE REFLECTANCE MEASUREMENTS)
92-2214...

10/3,K/12 (Item 5 from file: 34)
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02810211 **Genuine Article#:** MF170 **No. References:** 278
PROTON SPECTROSCOPY IN-VIVO

Author: HOWE FA; MAXWELL RJ; SAUNDERS DE; BROWN MM; GRIFFITHS JR
Corporate Source: ST GEORGE HOSP,SCH MED,DEPT CELLULAR & MOLEC SCI,CRC,BIOMED MAGNET RESONANCE RES GRP/LONDON//ENGLAND/; ST GEORGE HOSP,SCH MED,DEPT MED,DIV CLIN NEUROSCI/LONDON//ENGLAND/
Journal: MAGNETIC RESONANCE QUARTERLY , 1993 , V 9 , N1 (MAR) , P 31-59
ISSN: 0899-9422
Language: ENGLISH **Document Type:** REVIEW (Abstract Available)
PROTON SPECTROSCOPY IN-VIVO
Abstract: H-1 magnetic resonance spectroscopy (MRS) has attracted much attention in recent years. Since the proton is the most sensitive... ...all metabolites contain hydrogen atoms, it is possible to perform a noninvasive chemical analysis on tissues deep within the body of a subject. Technical solutions to the elimination of water and lipid... ...with a consideration of these technical problems and also localization, editing, quantitation, and interpretation of spectra. Two diseases are considered in detail: cerebral ischemia (including stroke and neonatal ischemic/hypoxic injury... ...and eddy currents, more sophisticated radiofrequency (RF) pulses, and H-1-observe/C-13-edited spectroscopy all offer potential improvements. Another major improvement will

come from increased user-friendliness of clinical spectrometers and use of automated objective methods for spectroscopic data analysis.
Identifiers-- ...MAGNETIC-RESONANCE SPECTROSCOPY; HUMAN-BRAIN INVIVO; LOCALIZED H-1-NMR SPECTRA; HUMAN SKELETAL-MUSCLE; H-1 MR SPECTROSCOPY; DOUBLE-QUANTUM COHERENCE; HUMAN INTRACRANIAL TUMORS; HUMAN VISUAL-CORTEX; NMR PHASED-ARRAY; SHORT ECHO TIMES
Research Fronts: 91-3395 009 (LOCALIZED PROTON MR SPECTROSCOPY; BRAIN METABOLISM; H-1-NMR SIGNAL)
91-6661 002 (PULSED FIELD GRADIENTS IN HIGH-RESOLUTION NMR-SPECTROSCOPY; LOCALIZED INVIVO DETECTION METHOD FOR LACTATE; DOUBLE-QUANTUM FILTERING)
91-0212 001 (TUMOR HYPOXIA; INVIVO IN FSAIIC FIBROSARCOMA; DNA INVITRO; RADIATION RESPONSE; FLUOSOL-DA CARBOGEN; C3H MICE)
91-2030 001 (BROAD-BAND COMPOSITE PULSES; SELECTIVE 2-DIMENSIONAL NMR EXPERIMENTS; HETERONUCLEAR POLARIZATION TRANSFER; PROTON-DETECTED C-13 SPECTROSCOPY)
91-3591 001 (THIOACETAMIDE-INDUCED HEPATIC-ENCEPHALOPATHY IN RATS; CEREBRAL AMMONIA METABOLISM; ACUTE HYPERAMMONEMIA; H-1 SPECTROSCOPY)
91-5115 001 (NMR IMAGING OF WATER; NUCLEAR-MAGNETIC-RESONANCE MICROSCOPY; STRUCTURE IN CONCENTRATED SUSPENSIONS)

10/3,K/13 (Item 1 from file: 73)
Fulltext available through: USPTO Full Text Retrieval Options Institute of Physics
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11649636 **EMBASE No:** 2002220341
Imaging of in vitro chicken leg using time-resolved near-infrared optical tomography

Zhao H.; Gao F.; Tanikawa Y.; Onodera Y.; Ohmi M.; Haruna M.; Yamada Y.
H. Zhao, Natl. Inst. Adv. Indus. Sci./Technol, Namiki 1-2, Tsukuba, Ibaraki 305-8564 Japan
Physics in Medicine and Biology (PHYS. MED. BIOL.) (United Kingdom) 07 JUN 2002 , 47/11 (1979-1993)
CODEN: PHMBA **ISSN:** 0031-9155
Publisher Item Identifier: S0031915502288314
Document Type: Journal ; Article
Language: ENGLISH **Summary Language:** ENGLISH
Number Of References: 42
Imaging of in vitro chicken leg using time-resolved near-infrared optical tomography

Near-infrared optical imaging gains much attention because of its non-invasiveness and deep penetration depths into tissue. Here, we report near-infrared optical tomographic imaging of an in vitro chicken leg from time-resolved measurements. The in vitro chicken leg, dipped in a cylindrical container filled with diluted Intralipid-10% solution, was imaged with a multi-channel time-resolved imaging system. A two-dimensional reconstruction algorithm based on a modified generalized pulse spectrum technique has been developed to reconstruct the images of both the absorption and reduced scattering coefficients simultaneously and quickly. The results demonstrate that...
MEDICAL DESCRIPTORS:
imaging system; in vitro study; chicken; leg; time; non invasive measurement; dilution; image reconstruction; algorithm; radiation absorption; radiation scattering; constants and coefficients; optics; physiology; anatomy;

nonhuman; controlled study; animal tissue; article; priority journal

10/3,K/14 (Item 2 from file: 73)
Fulltext available through: USPTO Full Text Retrieval Options
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11329015 **EMBASE No:** 2001343239
Multiphoton microscopy in biological research

Williams R.M.; Zipfel W.R.; Webb W.W.
R.M. Williams, Applied and Engineering Physics, Cornell University, Ithaca, NY 14853 United States
Author Email: rw36@cornell.edu
Current Opinion in Chemical Biology (CURR. OPIN. CHEM. BIOL.) (United Kingdom) 01 OCT 2001 , 5/5 (603-608)
CODEN: COCBF **ISSN:** 1367-5931
Document Type: Journal ; Review
Language: ENGLISH **Summary Language:** ENGLISH
Number Of References: 77

...a photonic novelty to an indispensable tool for gleaning information from subcellular events within organized **tissue** environments. Its relatively **deep** optical penetration has recently been exploited for subcellularly resolved investigations of disease models in living transgenic mice. Its enhanced **spectral** accessibility enables aberration-free **imaging** of fluorescent molecules absorbing in deep-UV energy regimes with simultaneous **imaging** of species having extremely diverse emission **spectra**. Although excited fluorescence is the primary signal for multiphoton microscopy, harmonic generation by multiphoton scattering processes are also valuable for **imaging** species with large anharmonic modes, such as collagen structures and membrane potential sensing dyes.
MEDICAL DESCRIPTORS:
bioassay; photon; transgenic mouse; ultraviolet **radiation**; fluorescence; light scattering; phototoxicity; photochemistry; **imaging** system; membrane potential; cytology; analytic method; nonhuman; review

10/3,K/15 (Item 3 from file: 73)
Fulltext available through: USPTO Full Text Retrieval Options
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07466241 **EMBASE No:** 1998393206
Optical biopsy of in vivo human skin: Multi-photon excitation microscopy

Masters B.R.; So P.T.C.; Gratton E.
Dr. P.T.C. So, Department of Mechanical Engineering, Massachusetts Inst. of Technology, Cambridge, MA 02139 United States
Lasers in Medical Science (LASERS MED. SCI.) (United Kingdom) 1998 , 13/3 (196-203)
CODEN: LMSCE **ISSN:** 0268-8921
Document Type: Journal ; Article
Language: ENGLISH **Summary Language:** ENGLISH
Number Of References: 27

Two-photon excitation microscopy has the potential as an effective, non-invasive, **imaging** tool for in vivo examination of human **deep tissue** structure at the subcellular level. By using infrared photons as the excitation source in two... ...physical basis for optical sectioning. Multi-photon excitation microscopy at 730 nm was used to **image** in vivo human skin autofluorescence from the surface to a depth of about 100 mum. The **spectroscopic** data suggest that reduced pyridine nucleotides, NAD(P)H, are the primary source of the... ...730 nm excitation. This study demonstrates the use of multi-photon excitation microscopy for functional

imaging of the metabolic states of in vivo human skin cells and provides a functional and...
MEDICAL DESCRIPTORS:
ultraviolet **radiation**; absorption; infrared **radiation**; **imaging**; autofluorescence; **spectroscopy**; human; human tissue; clinical trial; article; priority journal

10/3,K/16 (Item 1 from file: 95)
Fulltext available through: USPTO Full Text Retrieval Options
TEME-Technology & Management
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01725750 20030207917
Anatomical and functional images of in vitro and in vivo tissues by NIR time-domain diffuse optical tomography

(Anatomische und funktionelle Abbildungen von in-vitro und in-vivo-Geweben mit Hilfe einer zeitlich aufgeloesten optischen Tomographie im infrarotnahen Bereich (NIR-DOT))
Zhao, H; Gao, F; Tanikawa, Y; Homma, K; Onodera, Y; Yamada, Y
Nat. Inst. of Adv. Ind. Sci. a. Technol. (AIST), Tsukuba, J; RIKEN Inst. of Phys. a. Chem. Res., Wako, J
JSME International Journal, Series C (Mechanical Systems, Machine Elements and Manufacturing), v45, n4, pp1033-1039 , 2002
Document type: journal article **Language:** English
Record type: Abstract
ISSN: 1344-7653
Anatomical and functional images of in vitro and in vivo tissues by NIR time-domain diffuse optical tomography

Abstract:
...diffuse optical tomography (DOT) has gained much attention and it will be clinically applied to imaging breast, neonatal head, and the hemodynamics of the brain because of its noninvasiveness and deep penetration in biological tissue. Prior to achieving the imaging of infant brain using DOT, the developed methodologies need to be experimentally justified by imaging some real organs with simpler structures. The authors report their results of an in vitro... ...human forearm from the data measured by a multi-channel time-resolved NIR system. Tomographic images were reconstructed by a two-dimensional image reconstruction algorithm based on a modified generalized pulse spectrum technique for simultaneous reconstruction of the my(ind a) and my'(ind s). The absolute my(ind a)- and my'(ind s)- images revealed the inner structures of the chicken leg and the forearm, where the bones were clearly distinguished from the muscle. The Delta(my(ind a))-images showed the blood volume changes during the forearm exercise, providing that the system and the image reconstruction algorithm could potentially be used for imaging not only the anatomic structure but also the hemodynamics in neonatal heads.
Descriptors: BIOLOGICAL TISSUE; IN VITRO; IN VIVO; NEAR INFRARED RADIATION; TIME

DOMAIN ANALYSIS; BIOMECHANICS; FEA... ...FINITE ELEMENT ANALYSIS; MUSCLE; BONES; OPTICAL MEASURING TECHNIQUE; TOMOGRAPHY; ALGORITHM; IMAGE RECONSTRUCTION; LAPLACE TRANSFORMS; DIODE LASERS; MAGNETIC RESONANCE IMAGING; BLOOD VOLUME; HEMODYNAMICS

10/3,K/17 (Item 1 from file: 155)
Fulltext available through: Optical Society of America USPTO Full Text Retrieval Options
MEDLINE(R)
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14567612 **PMID:** 14587818
Metabolism-enhanced tumor localization by fluorescence imaging: in vivo animal studies.

Chen Y; Zheng G; Zhang Z H; Blessington D; Zhang M; Li H; Liu Q; Zhou L; Intes X; Achilefu S; Chance B
Department of Biophysics and Department of Radiology, University of Pennsylvania, Philadelphia, Pennsylvania 19104, USA. chenyu@mail.med.upenn.edu
Optics letters (United States) Nov 1 2003 , 28 (21) p2070-2 , **ISSN:** 0146-9592--Print **Journal Code:** 7708433
Contract/Grant No.: CA72895; CA; NCI; CO97065; CO; NCI; R21 CA95330; CA; NCI
Publishing Model Print
Document type: Journal Article; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, Non-P.H.S.; Research Support, U.S. Gov't, P.H.S.
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Metabolism-enhanced tumor localization by fluorescence imaging: in vivo animal studies.
We present a high-sensitivity near-infrared optical imaging system for noninvasive cancer detection and localization based on molecularly labeled fluorescent contrast agents. This... ...which targets the enhanced tumor glycolysis, demonstrate the feasibility of detection of a 2-cm-deep subsurface tumor in the tissuelike medium, with a localization accuracy within 2-3 mm.
Descriptors: *Deoxyglucose--pharmacokinetics--PK; *Fluorescent Dyes--pharmacokinetics --PK; *Glycolysis; *Hepatoblastoma--pathology--PA; *Liver Neoplasms --pathology--PA; *Spectroscopy, Near-Infrared ; ...Feasibility Studies; Hepatoblastoma--metabolism--ME; Humans; Liver Neoplasms--metabolism--ME; Mice; Mice, Nude; Photons; Scattering, Radiation; Sensitivity and Specificity

10/3,K/18 (Item 2 from file: 155)
Fulltext available through: USPTO Full Text Retrieval Options
MEDLINE(R)
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14410400 **PMID:** 12868856
Near-infrared fluorescence contrast-enhanced imaging with area illumination and area detection: the forward imaging problem.

Thompson Alan B; Hawrysz Daniel J; Sevick-Muraca Eva M
Photon Migration Laboratories, Texas A&M University, 3573 TAMU, College Station, Texas 77843-3573, USA.
Applied optics (United States) Jul 1 2003 , 42 (19) p4125-36 , **ISSN:** 0003-6935--Print **Journal Code:**

0247660
Contract/Grant No.: R01 CA67176; CA; NCI
Publishing Model Print
Document type: Evaluation Studies; Journal Article; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, P.H.S.; Validation Studies
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Near-infrared fluorescence contrast-enhanced imaging with area illumination and area detection: the forward imaging problem.
...vessel containing 1-microm solution of Indocyanine Green in 1% Liposyn was immersed 1 cm deep in each 512-ml tissue phantom. For most tissue phantoms, the background surrounding the 1-ml target was composed of... ...migration techniques and validate the potential use of area illumination and area detection for biomedical imaging of tissues. Results also demonstrate that target-to-background ratios of fluorescence yield and fluorescence...
Descriptors: *Contrast Media--analysis--AN; *Contrast Media--chemistry--CH; * Image Interpretation, Computer-Assisted--methods--MT; * Imaging, Three-Dimensional--methods--MT; *Spectroscopy, Near-Infrared--methods--MT ; Imaging, Three-Dimensional--instrumentation--IS; Models, Biological; Phantoms, Imaging; Quality Control; Scattering, Radiation; Spectroscopy, Near-Infrared--instrumentation--IS

10/3,K/19 (Item 3 from file: 155)
Fulltext available through: USPTO Full Text Retrieval Options
MEDLINE(R)
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12999837 **PMID:** 11191107
Developments toward diagnostic breast cancer imaging using near-infrared optical measurements and fluorescent contrast agents.

Hawrysz D J; Sevick-Muraca E M
Department of Chemical Engineering, Texas A&M University, College Station 77843-3122, USA.
Neoplasia (New York, N.Y.) (United States) Sep-Oct 2000 , 2 (5) p388-417 , **ISSN:** 1522-8002--Print **Journal Code:** 100886622
Contract/Grant No.: K04CA6874; CA; NCI; R01CA67176; CA; NCI
Publishing Model Print
Document type: Journal Article; Research Support, U.S. Gov't, P.H.S.; Review
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Developments toward diagnostic breast cancer imaging using near-infrared optical measurements and fluorescent contrast agents.
The use of near-infrared (NIR) light to interrogate deep tissues has enormous potential for molecular-based imaging when coupled with NIR excitable dyes. More than a decade has now passed since the... ...emerging work underway in the use of diagnostic contrast agents for the molecular-based, diagnostic imaging of breast.
Descriptors: *Breast Neoplasms--diagnosis--DI; *Contrast Media; *Fluorescent Dyes --diagnostic use--DU; *Mass Screening--methods--MT; *Spectroscopy, Near-Infrared; *Tomography--methods--MT ; Absorption; Breast Neoplasms--drug therapy--DT; Equipment Design; Forecasting; Hemoglobins--radiation effects--RE; Humans; Image Processing, Computer-Assisted; Mass Screening--instrumentation --IS; Mathematics;

Neovascularization, Pathologic--diagnosis--DI; Oxyhemoglobins--radiation effects--RE; Photochemotherapy; Photons; Scattering, Radiation; Spectroscopy, Near-Infrared --instrumentation--IS; Tomography--instrumentation--IS

10/3,K/20 (Item 1 from file: 434)
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09641180 **Genuine Article#:** AJ564 **No. References:** 170
ACID PH IN TUMORS AND ITS POTENTIAL FOR THERAPEUTIC EXPLOITATION

Author: TANNOCK IF; ROTIN D
Corporate Source: ONTARIO CANC INST,DEPT MED/TORONTO M4X 1K9/ONTARIO/CANADA/; ONTARIO CANC INST,DEPT MED BIOPHYS/TORONTO M4X 1K9/ONTARIO/CANADA/; UNIV TORONTO/TORONTO M4X 1K9/ONTARIO/CANADA/
Journal: CANCER RESEARCH , 1989 , V 49 , N16 , P 4373-4384
Language: ENGLISH **Document Type:** REVIEW
Research Fronts: ...CULTURED RAT VASCULAR SMOOTH-MUSCLE CELLS; BASOLATERAL MEMBRANE)
87-0044 001 (RADIOFREQUENCY CAPACITIVE HYPERTHERMIA FOR **DEEP** -SEATED **TUMORS**; ANTHROPOMETRIC PREDICTION; BODY DENSITY; BIOELECTRIC IMPEDANCE; MICROBIAL BIOMASS)
87-1078 001 (HYPOXIC EMT6 CELLS; PERFLUOROCARBON EMULSION; DOXORUBICIN ACTIVATION INVITRO; ENHANCEMENT OF TUMOR **RADIATION** RESPONSE; OXYGEN CARRIERS; ANTITUMOR AGENTS)
87-3026 001 (INVIVO P-31 NUCLEAR MAGNETIC-RESONANCE **SPECTROSCOPY**; SPIN-ECHO PULSE SEQUENCE PARAMETERS FOR HIGH-CONTRAST MR **IMAGING**; MURINE MAMMARY ADENOCARCINOMAS)
87-8384 001 (LOCAL HYPERTHERMIA; RIF-1 TUMOR OF MICE; HEAT-INDUCED...

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[File 441] **ESPICOM Pharm&Med DEVICE NEWS** 2007/Feb W2
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